Chemical Engineering

[redacted]

Second Year Chemical Engineering

[redacted]

SUMMARY OF QUALIFICATIONS

- Working knowledge of C, MATLAB, VBA, ArcMap, Microsoft Word, PowerPoint and Outlook.
- Skilled creating various databases using Microsoft Excel and Access to efficiently organize and summarize large volumes of data.
- Extensive experience working in a laboratory setting executing protocols, and collecting and analyzing data. Performed titrations, chromatography and spectroscopic analysis with a high level of precision.
- Strong interpersonal skills; able to communicate with others in a clear and effective manner as gained through prior work experience, volunteering, and extracurricular involvement.
- Valid Ontario G Driver's Licence (unrestricted)
- Smart Serve Certificate

WORK EXPERIENCE

Engineering Co-op, Black & Veatch, Markham, ON May 2018 – September 2018

- Analyzed test results and performed design checks of the material properties of rehabilitated pipes.
- Created a multi-tab tracking spreadsheet in Excel for a new large-scale pipe rehabilitation project. The tracking spreadsheet contained complex automated processes to maximize efficiency.
- Assisted with onsite inspection of pipe installation.
- Responsible for keeping track of a large number of assets and ensuring the records were up to date.
- Interacted with Contractors and Inspectors to ensure all required information was properly documented.
- Returned after completion of the work term to train the next co-op student.

Produce Clerk, Foodland, Mount Albert, ON June 2014 - Aug. 2017

- Interacted with, and served a wide variety of customers and coworkers; developed strong communication skills.
- Supervised junior workers with a high degree of effectiveness, and trained new employees as required.
- Consistently followed many health and safety regulations; maintained a clean workspace and safely used various industrial equipment.

EDUCATION

Candidate for Bachelor of Applied Science September 2017- Present
Second Year Chemical Engineering
University of Toronto, Toronto, ON

Relevant Assignment:

Engineering Strategies and Practices Project II, Team Leader, U of T January 2018 - April 2018

- For the problem of minimizing corrosion on the Gardiner Expressway, my team and I researched and examined a wide variety of alternative materials, and ensured all adhered to the design specifications.
- Received and scoped the project and had several meetings with the client to further understand what the problems were in order to produce the most appropriate solution.
- Performed a detailed economic analysis of each alternative and determined the payback period for each.
- Created and presented our solution to the client and several Professors at the University of Toronto.

Relevant Courses: Engineering Chemistry and Materials Science, Dynamics, Computer Fundamentals, Fluid Mechanics, Engineering Economics, Process Engineering, Heat and Mass Transfer, Inorganic Chemistry, Communication, Statistics, Environmental Chemistry.

Student 1

Ontario Secondary School Diploma, Honours Graduate, Huron Heights S.S, Newmarket, ON June 2017

EXTRACURRICULARS

Club for Undergraduate Biomedical Engineering, VP External, U of T August 2018 - May 2019

- Organized, hosted and recruited professionals working in the biomedical engineering field for our annual Industry Mixer. This event provides students with the opportunity to learn about the biomedical engineering field and meet professionals in the industry.
- Planned several other events to further create interest among students about the biomedical engineering industry and provide information on the opportunities that are available to them.

Track One Mentorship*,* Mentor, U of T August 2018 - May 2019

- Assist first year engineering students in making an informed decision about how to choose a second-year program.
- Direct students to the various resources available at the University of Toronto.
- Provide ongoing academic and moral support throughout their first year.

VOLUNTEER EXPERIENCE

Mentor, The Hospital for Sick Children, Toronto, ON July 2017 - Present

- Provide ongoing support and advice to adolescents with Arthritis.

Mount Albert Food Pantry, Mount Albert, ON April 2015 - June 2017

- Assisted with sorting and distribution of food and supplies to those in need within the local community.
- Communicated the needs of our patrons to other volunteers to ensure that they would receive appropriate care.

AWARDS AND CERTIFICATIONS

- Tri-Council Policy Statement: Course on Research Ethics Fall 2017
    - Government issued certification.
- 2017 UCBeyond Scholarship Recipient Fall 2017
    - Awarded by the UCB Pharmaceutical Company to a student with academic ambition who embraces a life that goes beyond regular boundaries.
- Neighbourhood Network Give Back Award Recipient, Aurora, ON Spring 2017
    - Awarded to individuals who demonstrate outstanding humanitarian efforts in their community.
- York Region District School Board Outstanding Student Achievement Spring 2017
    - Awarded to the two top Academic students from the graduating class.
- Huron Heights Secondary School Valedictorian Spring 2017
- French Competency Certificate Spring 2017

ACTIVITIES AND INTERESTS

- Avid camper who enjoys activities such as canoeing, hiking, swimming, and running.

Student 2

EDUCATION

Bachelor of Applied Science | University of Toronto 2017 – 2021

Department of Chemical Engineering

Relevant Courses: Engineering Strategies & Practices I & II, Fundamentals of Computer Programming, Concepts in Chemical Engineering, Introduction to Material Science, Process Engineering, Fluid Mechanics, Applied Chemistry I, Engineering Economics Analysis

SKILLS

- MS Office: Excel, Word, PowerPoint, Publisher, Project
- Adobe applications: Photoshop, InDesign, Dreamweaver
- MATLAB, AutoCAD, MySQL, R
- Native language: Chinese
- SFA CPR/ ADE C
- HTML, CSS, JavaScript, Python

WORK EXPERIENCES

Development & Donor Relations Assistant| University of Toronto 2018.09 - PRESENT

- Planned, coordinated and implemented alumni and donor relations initiatives
- Conducted background research of alumni and donors to support annual giving meetings
- Researched and facilitated the establishment of an engineering association and society database

Lab Assistant | Ruyi Garment Group, Jining, Shandong, China 2016.04 – 2016.06

- Performed experimental tasks and quantitative analysis to determine fabric grading
- Supported technical report translation (English to Simplified Chinese)

RELEVANT PROJECTS

Project Manager | Environmental Consulting Project, University of Toronto 2019.01 - PRESENT

- Worked on Surface Water and Sediment Monitoring during Redevelopment of West Hamilton Harbour Pier 8 Project to design baseline assessment and contamination monitoring program
- Investigated water sampling equipment and analysis methodologies to generate proposal that solves the problem presented economically
- Supported communications between the project team and the course teaching team to make sure that information has been updated promptly

Team Member | Applied Chemistry Laboratory Project, University of Toronto 2018.09 – 2018.12

- Collaborated with team member to research and develop methodology to examine copper content of ore samples
- Executed the proposed methodology in undergraduate inorganic laboratory and quantitatively analysed the results
- Drafted technical report to present findings and to make recommendations based on experimental analysis and sociopolitical factors

Student 2

RELEVANT PROJECTS CONTINUED

Team Member | Troost ILead, the Game, University of Toronto 2017.01 – 2018.08

- Created project with team members to reduce the negative effect of secondhand smoking in the Province of Ontario
- Revised project plans based on academic journals, input from advocacy groups and research units to achieve smoke-free campus at the University of Toronto St. George Campus
- Implemented behavioral economics and nudge theory to explore ways to influence individual decision-making

Team Leader, Project Manager | ESP II Project, University of Toronto 2018.01 – 2018.04

- Led team to design electrical system for client's monorail project and proposed WebApp as final solution
- Oversaw project progress, scheduled and reinforced task durations and internal deadlines to ensure quality deliverables
- Tested and explored iterative procedures for document check to ensure error-free

Team Member | ESP I Project, University of Toronto 2017.09 – 2017.11

- Collaborated with team to come up with creative measures for Northern Ontario wildfire prevention
- Organized governance for effective team communications and regular progress reporting
- Evaluated alternative designs following engineering design procedures to optimize final proposal

EXTRACURRICULARS AND LEADERSHIP

Wellness Director| Chem Club, University of Toronto 2018.05– PRESENT

- Researched and organized de-stressing activities during the academic semester
- Assisted and facilitated the organization of other events within the discipline club
- Reached out community service programs within the GTA area for possible cooperation and successfully secured service animal visit with St. John Ambulance therapy dog program

Online Director | the Cannon Newspaper, University of Toronto
Layout Contributor | the Cannon Newspaper, University of Toronto 2017.09 – PRESENT

- Formatted articles and images for print issues
- Handled the social media accounts of the Cannon Newspaper and improved online presence
- Tracked analytics and reviews to provide feedbacks on guiding directions based on pageviews and reactions

Fundraising Committee Member| SPE North America Student Symposium 2018.09 – 2019.01

- Prepared in the preparation of sponsorship packages and facilitated the communication between the board of directors and potential sponsors
- Collaboratively achieved 80% of sponsorship target

CLUBS AND AFFILIATIONS

Student Membership Program, Student Member | Professional Engineers Ontario
Skule™ Mental Health and Wellness Team| University of Toronto

Civil Engineering

[redacted] Student 3

[redacted]

EDUCATION

University of Toronto — Toronto, ON
Bachelor of Applied Science — 2014 – present
Civil Engineering

University of Toronto School of Continuing Studies — Toronto, ON
Certificate — 2018 – present
Geographic Information Systems for Environmental Management

EXPERIENCE

Canadian Mental Health Association Toronto — Toronto, ON
Client programming coordinator — April 2015 – March 2016

- Developed meaningful programming in the form of monthly outings for clients of the Canadian Mental Health Association
- Designed posters advertising events, made outreach phone calls to prospective attendees, and helped supervise clients during events
- Participated in organizing twelve outings

PROJECTS

CIV340 Municipal Engineering — U of T
Water, sanitary, and storm systems design project — March – April 2018

- Designed the municipal services for the development of a 24.6-hectare parcel of land hosting 369 residential units
- Used the program EPANET to model the water distribution system including hydrant locations and used the program AutoCAD to lay out storm and sanitary sewer system designs including drainage area plans
- Estimated the cost of implementing the water distribution system

CIV312 Steel and Timber Design — U of T
Five-storey steel building design project — November – December 2017

- Designed a five-storey steel building under gravity, snow, and wind loading
- Led a team through the use of the program S-FRAME to model the effect of loading on the moment-resisting frame and concentrically-braced frame
- Determined appropriate steel member specifications for each storey and designed connections such as shear tabs, base plates, and gusset plates

SKILLS

- Significant leadership, teamwork, organizational, and communication skills
- Proficient in MS Office with training in AutoCAD, SketchUp, ArcGIS, MATLAB, EPANET, and S-FRAME
- Punctual, conscientious, and resourceful

Student 4

[redacted]

Education

University of Toronto, Bachelor of Applied Science in Civil Engineering, Toronto, Canada |09.2016-06.2020
GPA 3.57

Key Modules: Water Treatment, Geotechnical Engineering, Materials Science, Structural Analysis, Transportation, Building Science, Construction and Management, Materials, Engineering Mathematics, Engineering Economics, Engineering Strategy and Practice;

Nanyang Technological University, Singapore, Summer Exchange Student **Singapore |06.2017-07.2017**

Key Modules: 3D Printing Technology, Photojournalism;

Projects

Snowmobile Engine-Heating Design Project, Member **Toronto, Canada |01.2017-04.2017**

- Collaborated with 3 other members to analyze customer needs, and local environment; clarify customer needs, i.e. designing engine insulation equipment to solve traffic problems in rural Alaska in extremely cold weather;
- Determined the scope of design requirements based on local management systems, stakeholder interests and customer needs, including: product features, constraints and product objectives;
- Regularly conducted customer interview, followed up the whole design process, coordinated customer needs and made improvements, and followed project design steps and strategies to improve project design;
- Determined the design scheme through engineering comparison method, and met customer's requirements by adopting the crystal heating plate;
- Coordinated the work time of team members to promote the process, held regular meetings, wrote project reports and delivered PPT presentations;

Survey Camp Project, Member **Toronto, Canada |08.2018-09.2018**

- Drew the highway curve including its profile, vertical curve and horizontal curve according to the actual measurement data, and calculated the earthwork volume;
- Drew a topographic map: measured more than 200 topographic points including terrain height and location, and finally drew the topographic map of the entire survey camp;
- Surveyed the ecosystem and measured the local environment, including: water quality, soil, water flow rate, etc., and made group presentation;
- Recorded the daily raw data and progress with measuring instruments such as total station, automatic leveling machine, HACH, YSI probe, etc. Analyzed the measurement data and made calculations for further analysis;
- Assigned tasks reasonably to ensure that each member was available to all the instruments. Mainly responsible for calculation and presentation;

Modelling of the Smartphone-based colorimetric sensing with plasmonic nanostructure Project **Hong Kong, China**
Member **06.2018-08.2018**

- Reviewed a large number of academic papers to get to know the research project better. Completed the modeling of spectral nanoparticle optical reactions and multi-spectral images of smartphones in spectral acquisition, and identified sensing capabilities;
- Modelled and analyzed data using Python and Excel, improved the paper based on published ones, drew the conclusion and improved the model;
- Organized relevant materials, made presentation posters;

Activities

Volunteer Teaching in China, University of Toronto, Physics Teacher **Guangxi, China |05.2017-06.2017**

- Participated in the volunteer teaching activities in China of University of Toronto, and collaborated with 7 other students to serve as a volunteer teacher at Guzhang High School in Gushen Town, Baise City, Guangxi Province to carry out teaching activities;
- Independently formulated lesson plans, prepared teaching content, organized regular tests to identify students' learning outcomes, and wrote classroom feedback;
- Planned English performances and dance programs and organized rehearsals. Conducted home visits during the teaching period and offered grants to students in need;
- Understood the actual situation of students in poor mountainous areas during classes, evening self-study, and other activities, and successfully completed the teaching plans;

Skills & Awards

Awards: 2016: Euclid Mathematics Contest – Top 25% in Canada, School Champion;
2017: Julius D. Solomon Scholarship;
2016: Admission Scholarship of University of Toronto;
2016: Admission Scholarship of Civil Engineering, University of Toronto;

Student 4

Language: Mandarin (native), English (fluent)
Software: Proficient in Microsoft Office, Python, SketchUp, AutoCAD
Hobbies: Dance, Photography, Reading

Student 5

[redacted]

EDUCATION

Bachelor of Applied Science, University of Toronto ***Sept'16 – Present***

- Major in Civil Engineering (3rd Year), Certificate in Engineering Business

Awards: Dean's Honor List

Relevant Courses: Management of Construction, Civil Eng. Graphics, Steel & Timber Design, Civil Eng. Materials, Municipal Engineering (IPR), Transportation I & II

APPLICABLE SKILLS

- **CAD & Software:** AutoCAD, SketchUp, & EPANET
- **Programming Languages :** MATLAB, Python, & HTML
- **MS Office:** Project, Excel, Word, PowerPoint.
- **Safety and Codes:** Familiar with CISC Handbook of Steel Construction (HSC-S16-14), National Building Code of Canada (NBCC 2015), Design in Wood (086-14), OHSA, WHMIS , & OWRA.
- **Extra:** Familiar with Surveying Equipment such as Total Station and Automatic Levelling. Bilingual (English and Arabic).

RELEVANT ENGINEERING PROJECTS

Team Lead**, Water Distribution System, U of T* ***Jan'19 – April'19

- Managed successfully a team of 4 students to complete the design of water distribution system for a city taking into consideration its demand, Sanitary Pipes, and storm water.
- Developed a Water Distribution System on EPANET to ensure the right amount of pressure, velocity, and head exists in each pipe.
- Developed a drawing of all the pipes and their flow in the city using Auto-Cad.
- Developed an Excel sheet used to calculate the flow, velocity, and critical depth of the pipe to ensure it meets the minimum criteria.

Team Lead**, Steel & Timber Design Team, U of T* ***Sept'18 – Dec'18

- Managed successfully a team of 4 students to complete the design of a five-story steel office building using the most economically efficient methods.
- Verified the outputs of S-Frame under different load cases & load combinations via hand calculations using NBCC 2015.
- Performed all the required checks outlined by the CISC HSC S16-14 for different types of members to ensure the safest and most economic members were being designed.
- Produced AutoCAD drawings of multiple connections in the structure to illustrate more detailed connections.

Student 5

Team Lead, *Construction Management Project, U of T* ***Sept'17 – Dec'17***

- Managed a team of 3 students to prepare a report about some of the safety concerns and technologies used on 20 construction sites in downtown Toronto.
- Arranged construction site visits to identify the size of the project, materials used, timetable of the project, and challenges faced to ensure accuracy of report.
- Submitted a report showing our findings including some insightful recommendations on how to minimize the negative effects of the construction site on the surrounding environment.

Team Member, *Ladder Safety Design, U of T* ***Jan'17 – April'17***

- Collaborated with my team members to produce a design that holds a ladder on a truck.
- Prepared a design that contained all the required information, drawings, estimated costs , and design standards used to present it to the client.
- Created Gantt Charts to organize tasks and monitor the team's progress using Microsoft Project.
- Ensured client satisfaction and approval of the design by arranging multiple meetings to clarify their expectations and presenting the prototype.

Team Member, *Shelter for the homeless in Toronto during Winter, U of T* ***Sept'16 – Dec'16***

- Collaborated with my team members to produce a design that ensures that the homeless people can warm up during the extreme cold weather alerts in Toronto.
- Prepared a design that contained all the required information, drawings, estimated costs , and design standards used to present it to the client.

RELEVANT ENGINEERING WORK EXPERIENCE

Surveying , *Survey Camp* ***July'18 – Aug'18***

- Developed a design map for a highway curve using information gathered using surveying methods and equipment such as Total Station, Prism, and Automatic Levelling.
- Developed a contour line map for an Area of a City using elevations of hundreds of points gathered using surveying methods and equipment such as Total Station and Prism.
- Collected and Analyzed water samples from water stream and Lake to ensure its safety for the environment.
- Developed a Solution to transfer water using geothermal methods only taking into consideration its efficiency and price.

Security Guard, *Defender Security Company, Toronto, ON* ***May'18 – Aug,18***

- Supervised Construction sites to ensure the safety of the location and workers present.
- Submitted daily reports of all the technical problems present during that day.

Tutor, *Private Tutor, Toronto* ***June'16 – Aug,18***

- Helped Students understand the coursework and how to tackle problems.
- Improved the critical thinking abilities of students to help them approach problems in different ways in order to achieve the best possible results.

Computer Engineering

Student 6

[redacted]

Education

BASc – Computer Engineering | Minor in AI Engineering | 2021 (Expected) | University of Toronto

- **Current CGPA: 3.85 (2018 Fall).**
- **2nd Year Student. Dean's List Honoree 2017/18. Ranked Top 10 (out of 140) in the program (Fall 2018).**
- Relevant Course Experience:
  - C++ Programming: Video Game AI Design, Data Structure Fundamentals.
  - C++ Project: Data Structures, Shortest-Distance and Travelling Salesman Algorithms, GUI Design.
  - Verilog HDL Design: Hardware Fundamentals, Implementation of Monopoly in Verilog HDL.
  - ARM Assembly: Assembly Algorithm Design, Assembly Project.

Professional Skills

- Proficient in object-oriented programming, with experience from personal and course projects.
- Proficient in C++, Java, C#, JavaScript, Python, C, HTML5, CSS3, Verilog HDL and ARM Assembly.
- Experienced in utilizing Git as a version control system for team projects.
- Strong verbal and written communication skills and cooperative when working in a team.
- Experienced in team leadership and project management.

Relevant Projects

"Twice Upon A Time" | Personal Project | May 2018 – In Progress

- Developing a turn-based role-playing video game titled "Twice Upon A Time".
- Game is developed using JavaScript. Current working demo has approximately 2 hours of fully functional gameplay.
- Project files can be found on my GitHub.

City Mapping Software | January 2019 – In Progress

- Developing a mapping software in C++ using version-control system (Git) among 3 team members.
- Designed flexible architecture to accommodate expansions using object-oriented programming.
- Designed APIs and data structures to utilize the OpenStreetMap database for large cities (over 20 million data points).
- Utilized external APIs to provide information to the user beyond the OpenStreetMap database.
- Developed a graphical UI system for concise and accurate presentation of information for the user.
- Utilized a genetic algorithm to optimize travelling courier problems.

Reversi | March 2018

- Created a console Reversi (also known as Othello) game in C.
- Created basic Artificial Intelligence to play the Reversi game against a human or AI opponent.

Pit Cart Design | Project Manager | January 2018 – April 2018

- Developed a design for improved transport of heavy equipment for use in an international competition by the client.
- Planned and organized project workflow and resource allocation for a team of 5 members.
- Communicated with the client directly and developed design requirements.

Work Experience

Full Time Intern | Radio Today | June 2016 – August 2016

- Collaborated in a team of 5 to ensure efficient and effective completion of projects before their deadlines.
- Designed and scheduled radio content marketed towards a teenage audience, increasing youth listenership by about 10,000 new listeners over 3 months.
- Researched marketing data and public surveys of 40-50 people, improving advertising content and scheduling.
- Designed and produced advertising content and public service announcements which were featured 8-10 times per day.

Interests

- Watching and playing soccer.
- Playing and developing video games.

Student 7

[redacted]

EDUCATION

University of Toronto: BASc. in Computer Engineering, GPA-3.23, Apr. 2021

Courses: Computer Fundamentals, Introuction to Computer Engg., Programming Fundamentals, Calculus, Linear Algebra, Advanced Engineering Mathematics

Udacity: Nanodegree- Completed in Aug. 2018

Courses: Front End Web Development

SKILLS

Software Languages: HTML, CSS, JavaScript, C++, Python, Arduino IDE
Framework/ Tool: React, GIT Node Js, JQuery.
Hardware: Arduino UNO, Verilog, Basic circuits and PCB design

PROJECTS

Unity Games

- Learnt unity technology and built two games:
  1) https://github.com/rahulbanerjee26/Car-Game
  2) https://github.com/rahulbanerjee26/JackTheGiant.V0

Arcade Game

- Added functionality to an arcade game which allows the users to select their characters and moves the character based on the user's input.
- Implemented rules of the game using JavaScript

Card Matching Memory Game

- Added functionality to a game which allows the users to guess and match Cards.
- Added functions such as a timer, animations and stars awarded.

Reversi Game

- Developed a computer vs human version of the classic Reversi/Othello game in C.
- Coded a simple AI to makes smart moves based on the user's moves

Asteroid Observer Game

- Added functionality to a Asteroid Observer game Using linked lists in C++

Neighborhood Map Web App

- Built a neighborhood map giving details of various hotels in Kuwait City using React framework, Google Maps and Foursquare APIs

MyReads Book Web App

- Developed a web app using React to keep tracks of the books the user has read, wants to read and is currently reading.

Restaurant Review Web App

- Built a single-page responsive web app which displays a suggestion of restaurants based on the user's specifications. The app provides details and reviews about the restaurants.

Library Data Management

- Developed data management of a library using the concept of classes, structures and files in C++ to perform functions such as renting out books, managing database of books and members for a library and improved the functional efficiency.

COURSE WORKS

- Early Detection of Forest Fire
- Jackpot Machine
- Student Life Website
- Modeling Assignment

EMPLOYMENT

IT Intern, Kuwait Oil Company **June 2017-August 2017**

- Managed MS SQL Server Database and enhanced IT security and ITLL with monthly updates.
- Increased workplace performance by resolving IT issues 70% faster than average support. Provided helpdesk support to corporate IT users for Windows Operating system & Microsoft Office Suite
- Provided support to troubleshoot hardware (printers, personal computers and laptops) related issues.

AWARDS AND HONORARY MENTIONS

- Got Appreciation Certificate from Ministry of Human Resource Development, India for my brilliant performance in CBSE Grade 10 examination. I obtained CGPA 10 out of 10.
- The certificate of academic excellent and green tie was awarded to me for my brilliant performance for three consecutive years (2013-2016).

EXTRA-CURRICULAR ACTIVITIES

- Presently engaged in different social activities by being member of Blue Crew and Indian Social Community teams of university.
- Took part in the beach cleaning campaign, fund raising programs for the earthquake victims in Nepal,
- Volunteered at many school carnival fares and staffing stalls.

PERSONAL DETAILS

- Date of Birth: 26.11.1999
- Languages Known: English, Hindi, French and Bengali
- Hobbies: Reading, sports, photography and listening to music

Student 8

EDUCATION

University of Toronto
BASc - Computer Engineering
Third Year
Sept. 2016 – Present
Expected Graduation Year: 2020

SKILLS

Languages:
C++, C, Java, Python, JavaScript, SQL

Technologies/Frameworks:
ReactJS, NodeJS, Express, MongoDB, AWS, Android, HTML5/CSS, Arduino, VHDL, Matlab

AWARDS

University of Toronto President's Scholarship of Distinction

Anne Marie Feddema Memorial Award – Awarded to excelling grades in math and science

Royal Canadian Legion Mathematics and Science Award

ACTIVITIES

University of Toronto Robotics Autonomous Rover Team

Iron Dragons Dragon Boating Team

EXPERIENCE

Livelihood Project Summer 2018
Software Engineering Intern | JavaScript, Java (Android Studio)

- Implemented an e-commerce store and social media integration with JavaScript to increase customer click through rate by 17%
- Developed a loyalty points app using Android Studio

Enginehire Summer 2017
Software Engineering Intern | Python, MongoDB, Express, ReactJS, NodeJS

- Reduced profile creation time by 30% by creating a python resume parser
- Reduced vulnerability by improving security and trimmed costs by 56% by helping in transferring the website from a WordPress platform into a full-stack web application

PROJECTS

Sentier - Mental Health App | JavaScript, Java (Android Studio)

- Worked closely with client to ensure all design expectations were satisfied
- Created backend endpoints for managing posts using MongoDB and Express.JS to communicate with android application

Voice and Facial Door/Ramp Opener | JavaScript, Java

- Wrote AWS Lambda functions for the Amazon Echo Dot to send voice commands to a microcontroller to open/close a door, and make calls
- Modified AWS Rekognition with Java to allow for facial recognition to be used as a signal to the microcontroller

Sanusens Breast Cancer Diagnosis Chat Bot | Python, SQL

- Developed the natural language processing (NLP) message response system with a team to give robust responses
- Wrote Django backend service to analyze user metrics to see where users were interacting and clicking off

GIS Mapping Software | C++

- Used the OpenStreetMap API to locally cache city map data in efficient data structures to load city maps in less than 2 seconds
- Implemented Dijkstra's and A* path finding algorithms to improve the performance of finding the optimal route between destinations by 100%
- Created an intuitive UI with a subset library of OpenGL called EasyGL

Student 9

Computer Engineering Undergraduate

2nd Year Student, University of Toronto
Toronto, ON, Canada

I am a quick learner with an **extensive skillset** and **precise attention for detail**.
I seek a position where I may streamline my **passion for computer programming and visual experiences** towards developing elegant, innovative technology.

Contact Information

[redacted]

Social Media

[redacted]

Skill Set

Software:
MATLAB, Git, Xcode, Quartus (1-2 years)
Microsoft Word, Excel, PowerPoint (6 years)

Programming Languages:
C/C++, Verilog, Assembly (1-2 years)

Visual Knowledge:
5 years Photoshop experience
7 years drawing experience
Ability to vividly envision objects in 3D space, lighting environments

Musical ability:
9 years piano experience
Grade 8 repertoire exam complete (First Class Honours)
Grade 2 Theory exam complete (First Class Honours with Distinction)

Traits

Intuitive coding style
Good at problem solving and debugging
Quick (and enthusiastic) learner
Proficient eye for detail
Strong communication skills, verbal and written
Personable

Projects

Jan – Mar 2019 — **Mapping and GIS Software Development**
- Worked among team of 3 to implement a **fully functional city mapping software** with similar functionality to Google Maps in **C++** with the use of the EZGL graphics library and Glade UI editing on linux
- Used **data downloaded from OpenStreetMap into API layers** containing geographical information and tags to draw maps of 19 cities
- Accessed data such as latitude longitude points and feature classifications to visualize streets, parks, lakes, buildings, points of interest and more
- Developed a program that could pan, zoom, and filter specific data depending on the user's input that **met all usability and responsiveness objectives set**

Jan – Apr 2018 — **"Global Engineering Classroom" Concept Development**
- Worked alongside team of 5 with clients Dr. Nadine Ibrahim and Dr. Rahim Rezaie to develop a method of connecting engineering students globally and **open channels of communication**
- Researched available technologies in remote areas of the world to determine the best design
- Designed a prototype mobile application for iOS, Android, Windows phone operating systems
- Features included video sharing platform, chat messaging interface, customizable profile
- Prototype was used to **demonstrate user experience and usability** of our design

Nov – Dec 2019 — **Digital Systems Design Project**
- Worked among a team of 3 to implement an N-particle gravity simulation (up to 256 particles based on RAM usage) in free space using an **FPGA** and **Verilog programming**.
- Was responsible for **coding and debugging** of the modules that used kinematics to update the positions of particles of varying mass on a monitor.
- Personally implemented **four finite state machines** that were all essential in the computation and displaying of the particle positions. The project had around 7 FSMs.
- Developed code that worked seamlessly with code that other team members developed.
- Received 105% on the project – our instructors were impressed!

Experience

May – Sept 2018 — **Solo Home Décor Production and Sales – Tamarack North Ltd.**
- Produced hand-painted wooden signs for home décor and commercial purposes
- Managed finances concerning materials, transportation, personal hourly wage
- Worked with **over 150 satisfied clients** through the summer
- Generated **over $8,000 within four months** in revenue
- Worked at a booth in farmer's markets every weekend to market my products
- Produced an entire set of signs for a 9-hole frisbee golf course, including a 6x5 foot illustrated overhead map of the entire property

2013 – Current — **Freelance Artist**
- Accomplished projects include **company vehicle decals for aircraft and trucks**, **website graphics, concept art for video games**, logos for T-shirts, mural designs, family and pet portraits, and much more
- Take on commission work from various clients through online social media platforms, connections, farmer's markets

Education

Sept 2017 - Current
Computer Engineering Undergraduate student at University of Toronto, 2nd year
Minoring in Engineering Business
Expected to graduate April 2021

Student 10

[redacted]

Education

University of Toronto, St. George Campus

- BASC in Computer Engineering with a minor in artificial intelligence , 2st Year (2017-2021)
- Academic Rank: CGPA 3.69
- Passed with Honors (3 semesters)
- Entrance Scholarship for academic excellence (2017): $5000

Highlights of Qualifications

- Proficient in C, C++,Verilog, Assembly language and MATLAB programming.
- Experienced in object-oriented programming, developing and debugging code.
- Experienced in version control systems such as Git and using Linux and Windows.
- Worked on numerous coding projects and very enthusiastic about learning and creating large software projects
- Very keen towards learning and mastering new technologies and require little to no supervision.
- Proficient in NetBeans, Git, Quartus prime, ModelSim, Simulink.
- Can successfully work in self directed tasks as well as in team settings.

Professional Experience

Engineering Strategies and Practices

- Worked in a group of 4 members to analyze a client statement regarding Forest Fires in Ontario, Canada and researched extensively in order to create the Project Requirements.
- Developed possible solutions for the reduction of Forest fires within the Conceptual Design Specifications to meet the requirements given by the client.
- Took lead in various tasks regarding team coordination and work load distribution for the team to function efficiently.

ILEAD Leadership Labs

- Lead a team to work on numerous small-scale projects and developed better leadership qualities and communication skills.
- Gained experience in team work and improved public speaking skills through debates.

Computer Hardware Design Project

- Worked with a team on an open-ended project using FPGAs specifically De1-Soc board and implemented a 2 player shooter game using Verilog, tested and debugged code using Model Sim. Optimized memory usage and speed of the software. Added keyboard input and monitor output complete with graphics and animations.

Software Engineering Design Project (In progress)

- Currently working as part of a team to design and implement a mapping software, complete with graphics and navigation system like that of google maps.
- Parsing data from the open source code to develop the software
- Using Git for version control and wiki for communication with my team members for efficient coding practices.
- Maintaining high quality coding standards to ensure code readability and easy debugging.

Hatchery Entrepreneurship Accelerator weekend

- Took a leadership role in my team to work on start-up ideas and worked on team work coordination.
- Improved my speaking and presenting skills in a professional atmosphere by delivering pitches to the judges.
- Placed in top 6 teams for best presentation and leadership skills.
- Worked on time management by working on a tight time schedule and keeping the whole progress organized and well managed.

[redacted]

Student 11

[redacted]

University of Toronto (2017-2021): BASc in Computer Engineering (2nd Year)

- My most recent sessional rank is in the top 5% of the Computer Engineering class (128 students). **GPA: 3.78**. **Average: 89.0%**.
- Recognized as a **University of Toronto scholar** for being one of their most outstanding new students on admission.
- Received the **Edward S. Rogers Sr. Admission Scholarship** awarded to ECE students based on academic achievement and extra-curricular activities.
- Received the **Kenneth Au-Yeung Memorial Scholarship**, awarded to a Computer Engineering student for academic achievement and community service.
- A member of U of T's **ECE Ambassadors** team.

Skills

- Can demonstrate proficiency in **Python, C++, C, SQLite, and ARM Assembly**.
- Experienced with **MATLAB** and **Simulink**; currently working on improving my proficiency in it with online courses, specifically related to using MATLAB to implement machine learning algorithms.
- Currently learning **Javascript**.
- Proficient with **Verilog**, KiCad and Adobe XD design tools.
- Highly skilled with the Microsoft Office suite of programs.

Research/Projects:

- Currently working in a team to create a **mapping application** using OpenStreetMaps data and C++ to program, in addition to using **Git**.
- Currently working on a Python application to **predict the reliability of news articles**, using Spacy/NLKT language processing libraries and Scikit-Learn.
- Currently working to create a program in C and ARM Assembly which will run on an FPGA board, **allowing users to draw with a mouse on a monitor**, before **recognizing the numeric digit drawn**.
- Created a **fantasy cricket game** using PyQT, Python, and SQLite.
- Helped build and design an **accurate temperature controller** as part of Prof. Vutha's research team's project to build an optical atomic clock at the University of Toronto using tools such as KiCAD and Arduino.

Student 11

- Led a team which researched and designed a device to **measure and characterize neural signals** for a client, PNG Labs, Mississauga.
- Did independent research on the **optical properties of silver nanoparticles**. The abstract was accepted for publication by U of T's Galbraith Society.

Summer Work Experience (May-August 2018)

- Worked on creating an event-recommendation platform aimed at students and young professionals as part of **The Entrepreneurship Hatchery** at U of T. In addition to programming, I was responsible for UX design, communicating with prospective clients/users and delivering pitches to prospective investors/partners.

High School (2013-2017): St. Francis Xavier Secondary School, Mississauga, Canada

- Graduated at the top of the **International Baccalaureate** class of 2017, scoring 43/45
- SAT Reasoning: 2370/2400
- Duke of Edinburgh Silver and Duke of Edinburgh Gold Awardee (independent participant).

Enrichment Programs Attended During High School

- Attended **Yale University's 'Yale Young Global Scholars Program - Science, Policy and Innovation'**.
- Attended **University of Toronto's 'DaVinci Engineering Enrichment Program - Bio Inspired Robotics'**. As a part of it, I used MATLAB to code genetic algorithms to create a program that would enable a robot to function autonomously.
- Attended **Johns Hopkins University's 'Engineering Innovation'** program at their Homewood Campus.

Volunteering initiatives

- **Mississauga Central Library**
- **Ninth Life Cat Rescue**
- Raised $2600 for **World Vision Canada**
- Initiated and conducted donor recruitment drives for **Canadian Blood Services**

Hobbies

- Cricket, tennis, music, video games.

Student 12

[redacted]

EDUCATION

B.A.Sc. in Computer Engineering
University of Toronto
2017 – 2021

Ontario S. S. Diploma
I.B. Diploma
I.E. Weldon S.S.
2013 – 2017

SKILLS

Programming
Python, C, C++, ARM Assembly, MATLAB, Git, Bash, Verilog, HTML, CSS, Arduino

3D Modeling
SolidWorks, Sketchup

Simulation / Automation
MultiSim, ModelSim

PROJECTS

Darts Simulator
Written in ARM Assembly, *2019*

Custom Geographic Information System
Written in C++, *2019*

Tabletop Arcade Basketball
Written in Verilog, *2018*

TECHNICAL EXPERIENCE

WEBMASTER

University of Toronto, Engineering Stores, *May 2018 – April 2019*

- Re-wrote and edited back-end Wordpress code to add shopping functionality to the store's website.
- Implemented a completely custom front end, and continually updated the store's information and inventory.
- Increased the sale of textbooks by 15%.

TECHNICAL MANUAL DESIGNER

Yonge and Eglington Center, *May 2018 – August 2018*

- Crafted a manual for how to access the digital displays located around the Yonge and Eglington shopping center
- Worked in conjunction with the lead electrician to allow any maintenance personnel to have a full understanding of the displays at the shopping center

INFORMATION TECHNOLOGY ASSISTANT

Chestnut Residence, University of Toronto, *October 2017 – May 2018*

- Troubleshot and fixed network issues that students had in their residence rooms
- Handled maintenance of the network equipment the student residents used (i.e. RJ45 cords, RJ12 cords, modems, splitters and routers)

LEADERSHIP EXPERIENCE

CO-CHAIR

University of Toronto Blue and Gold Committee, *April 2019– Present*

- Plan events to teach practical engineering skills (such as the handling of power tools, and electronics) for groups of up to 80 students.
- Manage a $10,000 budget dedicated to providing resources to the engineering community to promote the practical side of engineering

HEAD COORDINATOR

University of Toronto Engineering Orientation. *Apr 2018 – November 2018*

- Led a group of 60 first year students through a tour of the University of Toronto and introduced them to the extracurriculars the school has to offer
- Acted as a face of engineering for the orientation group, and mentored incoming first years on how to handle the adjustment from high school to university

Student 13

[redacted] [redacted] [redacted]

EDUCATION

- University of Toronto, (Toronto, ON) (September 2017-Present)
  - B.A. Computer Engineering
- Hillview College, (Tunapuna, Trinidad and Tobago) (September 2009-September 2016)
  - High School Diploma

WORK EXPERIENCE

- Intern at Trinidad and Tobago Electricity Commission: (June 2018- July 2018)
- Intern at Trinidad and Tobago Electricity Commission: (December 2016- March 2017)
  - Responsible for maintaining leave and attendance records for the administration department.
  - Created a database to distribute and stock items found in first aid kits.
  - Appointed on a team with Engineers to evaluate tenders for projects concerning Street Lights in Trinidad and Tobago.
  - Used Autocad to create various models including evacuation routes, pole assembly models and streetlighting of certain areas around Trinidad.

SKILLS

- Proficient in use of *C, C++ and Verilog Programming*
- Proficient in use of *Microsoft office, Matlab, Git, Blender and Autocad*
- Experience in *HTML*, *CSS*, worked with *Javascript, React, Nodejs*

RELEVANT EXPERIENCE

- **Google Maps Project**: Working on a team to create a GIS mapping application to plan an ideal night out using the Open Street Maps API, Yelp API and C++ (2019-Present)
- **Uoft Hacks**: Worked with the Interac API and Google Home Mini to create an app to receive money from anyone using voice, programmed using Dialogflow and Javascript.
- **University of Toronto's Light Combat Team**: Working on a team to construct a battle robot to compete in the light division of a robotics competition (2018-Present)
- **905 Game design team**: Working on a team to build a game. In the process of using Blender to create models for rooms and objects. (2018-Present)
- **Soccer Commissioner at University of Toronto:** Responsible for launching and maintaining the Engineering Coed Soccer League for the 2018-2019 school year. (2018-Present)
- **Final Project, Digital Systems**: Worked on a team with 2 people to create a game using an FPGA board (programmed with Verilog), Arduino and a gyroscope (November 2018)
- **Uoft Hacks**: Worked on a team to create a home automation app using Arduino and C that sends signals to your phone based on temperature, light and sound. (January 2018)
- **University of Toronto's Robotics Association Sumo Division**: Worked on a team with 4 students to design, build and code a battle robot. (September 2017- March 2018)

HONOURS AND AWARDS

- Recipient of an Open Scholarship from the Government of Trinidad and Tobago
- Achieved a Distinction in the Australian Math Olympiad
- Achieved awards for academic excellence for school performance from forms 1 to 4
- Achieved awards for outstanding performance at the Caribbean Secondary Education Certificate and the Caribbean Advanced Proficiency Examination

EXTRA CURRICULAR ACTIVITIES

- Member of the University of Toronto's Robotics Association
- High school Prefect and Peer Helper
- Member of my High School's Robotics Club

Student 14

[redacted]

Experience

WEB DEVELOPER/QA ANALYST | UNIVERSITY OF TORONTO | 01 MAY 2018- 28 FEBRUARY 2019

- Using REST API connected front end with server using Node.js and tested it with UTP
- Developed automatic tests for automatic build and regression tests using Watir and Selenium
- Completed Unit Testing using VScode and xUnit
- Created efficient inferencing algorithm (python API) with hundreds of variables to predict enterprise application health
- Configured AngularJS frontend with MongoDB and python APIs to display data to all departments across the institute
- Using AngularJS improved the interactivity of exiting UIs

FREELANCER.COM | 01 SEPT 2018-PRESENT

- Completed hardware related projects using C++, C, Verilog, Assembly, VHDL, Arduino and FPGA boards
- Created graph algorithm (python APIs) to find shortest paths across the city of Toronto with an integrative AngularJS front-end
- SFDC integrations using SOAP and REST API calls
- Created animated and website templates for clients

PROGRAMMING TEACHER | TORONTO KIWANIS BOYS AND GIRLS CLUB | 01 MARCH 2017-20 SEP 2017

- Introduced the basics of programming to elementary kids

Education

B.AS COMPUTER ENGINEERING | UNIVERSITY OF TORONTO

- Demonstrated phenomenal leadership and community involvement which was recognized and awarded with a full scholarship

Skills & Abilities

Programming/Hardware Languages: C, C++, C#, Python, Java, JavaScript, Verilog, VHDL, Assembly,
Web Software: AngularJS, CSS, HTML, TypeScript, Bootstrap, Simple CSS, LoadView , JS Bin, Webpack, Vue.js
Database Languages: MongoDB, SQL
Tools: MATLAB, Git, Apache SubVersion, Trello, Jira, Asana, Docker, Babel
Automation Tools: Cucumber, Watir, Selenium, xUnit, Unit Test Pro
Graphics Tool: DirectX, OpenGL, CAD, Middleware, Adobe Photoshop, Adobe After Effects
Operating Systems: Linux, macOS, Windows

RELATED PROJECTS COMPLETED

- AI Chess Engine with 1700 Elo
- Trained Poker AI with self-generated dataset of 65 million unique plays
- Tetris using C++ and SFML
- Dynamic UI Using AngularJS integrated to a Node.js webserver and MongoDB
- Maze Game using Verilog and FPGA
- Controlling the motors of a robot car through an encoder, PID controller and ultrasonic sensor on Arduino platform

Student 15

[redacted]

» Education

Bachelor of Applied Science, University of Toronto (U of T), St. George — **Sep. 2016–Present**

- Major in Computer Engineering (third year)
- Minors in Artificial Intelligence Engineering and Engineering Business
- CGPA: 3.19/4

Bachelor of Applied Science, University of Ottawa — **Sep. 2015–Aug. 2016**

- Major in Computer Engineering (first year only—transferred to U of T)
- CGPA: 9.91/10
- Dean's Honour List, first year

» Professional Experience

Team Member, APS360 (Fundamentals of AI) final course project, U of T — **Jan. 2019–Apr. 2019**

- Worked in a team of three to implement *Tumor Classification in Mammograms* using PyTorch and MATLAB
- Achieved validation accuracy 66% and test accuracy 60% in classifying tumor patches from the CBIS-DDSM dataset as benign calcification, benign mass, malignant calcification, or malignant mass

NSERC USRA Summer Intern, U of T — **May 2018–Aug. 2018**

- Worked under Professor Ofer Levi to improve motion robustness for remote vital signs imaging algorithms
- Wrote C++ code to interface with Intel RealSense™ SDK 2.0 cameras and MATLAB scripts for image and signal processing
- Set up *Extreme 3D,* a machine-learning program which produces 3D facial meshes to detect motion, with dependencies such as dlib, caffe, OpenCV, and PyTorch on Ubuntu

Team Member, Communication and Design course project, U of T — **Jan. 2018–Apr. 2018**

- Worked in a team of three to implement a simplified desktop version of Google Maps in C++
- Developed GIS that made use of nearest neighbour and Dijkstra's algorithms to heuristically solve the vehicle routing problem with pickup and delivery (VRPPD)

Team Leader, Engineering Strategies & Practice II course project, U of T — **Jan. 2017–Apr. 2017**

- Led a team of five to design innovative bicycle parking infrastructure for Harbord Village Residents' Association
- Composed project requirements, conceptual design specification, and final design (Inclined Bike Rack) specification reports and presentations for the client, Harbord Village Residents' Association

» Skills

Programming: Python, C, C++, MATLAB, PyTorch, Java, HTML, CSS, JavaScript
Languages: English (proficiency), Hindi (native proficiency), Arabic (elementary proficiency)
Mental Arithmetic: UCMAS Abacus (completed all 10 levels of 30-month course, winning accolades in national and international competitions)

» Volunteer Experience

You're Next Career Network (YNCN) Startup Career Expo, Volunteer — **January 27, 2017**

- Handled registration of visitors and collecting data for improving future events

Institute for Leadership Education in Engineering (ILead), Participant — **Sep. 2016–Present**

- Participated in workshops on goal setting, managing meetings, optimizing teams, public speaking, workplace readiness, and stress management

» Interests

Electronic keyboard (finished Grade 5/8 of Trinity College London exams), basketball, quizzing

[redacted]

Student 16

[redacted]

[redacted]

Education

- University of Toronto, 2017-present
  Bachelor of Applied Science and Engineering, Computer Engineering major
  Currently enrolled in PEY & ESIP co-op program of Engineering Career Center
  - *private int* GPA = 3.66; *//Dean's List*
  - ECE Ambassador, participated in Fall Campus Day
  - Admin position as Idea Exchange Associate at NeuroTech UofT, hosted a Neuroeconomics seminar in March, 2018 and a "Connexion" networking event in November, 2018
  - Putnam advanced training
- Currently taking ECE 297 Communication and Design (C++)
- Currently taking Google's machine learning crash course (Tensorflow)

Internship Experience

- Web Scraping Intern (Python) at Cardinal Operations, 2018.5 – 2018.8
  - Scrape merchandise information on dianping.com with Scrapy [redacted]
  - Scrape jd.com efficiently by applying a distributed system (Scrapy-Redis) [redacted]
  - Connect to MongoDB database and store/retrieve data
  - Process data with pandas and numpy
  - Apply a distributed system and multiprocessing techniques.

Student 16

Skills & Projects

- ECE241 Digital Systems (Verilog, individual), 2018-2019 academic year
  - Implement a hand-written digit recognition neural network from scratch
  - [redacted]

Skills & Projects (Continued)

- APS105 Computer Fundamentals (C, individual), 2017-2018 academic year
  - Create the game Reversi (also called Othello)
  - Build Reversi AI with a minimax search algorithm
  - [redacted]

- APS112 Eng. Strategies and Practice (team leader), 2017-2018 academic year
  - Lead problem statement, research, and idea generation processes as the team leader of a five-person group
  - Propose three feasible solutions to our 1st client (Ontario Ministry of Natural Resources and Forestry) on forest fire detection, and our 2nd client (Capital One) on credit card activation.

- AP Computer Science (Java, individual), 2016-2017
  - Utilize JFrame and JLabel to fully implement a Snake game
  - Automate snake through optimization techniques
  - [redacted]

Awards

- Participant of AIME, 2016 & 2017
- Arizona State Math Championships Grade 10 3rd Place, 2016.4
- Central Arizona High School Math Championships Grade 10 3rd Place, 2015.11
- Pima Community College 2015 Math Competition Grade 10 5th place, 2015.10
- US Amateur West Chess Championship U1600 Championship 1st Place, 2015.5
- SACA Regional Qualifier #2 K-12 Championship 1st Place, 2015.3

Extracurricular

Student 16

- Teach children chess at Pima County Public Library and Sam Hughes Elementary School, 2016-2017
- Member of National Honors Society
- Keen tennis and chess player

Student 17

- Honours student of St. John Paul II Catholic Secondary School's IB program
- Enrolled in the second year of computer engineering (AECPEBASC) at the University of Toronto
- Cumulative GPA: 3.76
- Experience with Python, C, C++, Java, Verilog, Assembly (ARM)
- [redacted]

WORK EXPERIENCE

Auto-Camping Ltd (Altrom Canada Corporation), Toronto, ON **2015 - 2018**
Receiver/Shipper (Summer Full-Time)

- Worked in small teams to receive and document shipments of automotive components
- Communicate effectively to train and introduce new workers into the team
- Strictly adhere to safety practices and exercise vigilance around machinery
- Suggested the use of searchable OCR on documentation to reduce eye strain and improve efficiency
- Built positive relationships and boosted workplace morale through constructive commentary

Paramount Designs and Renovations LTD., Toronto, ON **July 2018**
Computer Systems Technician

- Collaborate in a startup to assemble and maintain 8-GPU crypto mining rigs
- Research extensively on hardware combinations to maximize earnings and component longevity
- Actively audit hash rate and GPU temperature to minimize system crashes
- Achieved ~31 Mh/s hash rate for each AMD RX 580 GPU with custom-flashed bios on Ethereum
- Acquired experience of MSI Afterburner, AMD ATIFlash, and PolarisBiosEditor software

Ontario Power Generation, Pickering, ON **Jan - Apr 2018**
Head of Communications (UofT APS112 Course Project)

- In a team of six, research and propose a solution to the chemical processing of Mo-99 to Tc-99m
- Responsible for inter-team communications and with the client, Lawrence Green
- Compose a PR and CDS documentation to detail objectives, constraints and design alternatives
- Designed and 3D-printed a model technetium generator using SolidWorks
- Acquired experience of SolidWorks and Microsoft Project software

SIDE PROJECTS

Neurotech - **University of Toronto (St. George)**, Toronto, ON **2018 - Current**

- Collaborate in a team project sponsored by Steve Mann to use facial gestures such as eye movements to control camera drones
- Analyze brainwaves using the Muse headband and MuseLab SDK
- Code algorithms in Python to filter out and classify brainwaves (GitHub @projectEagleEye)

Online Courses / Specializations **Summer 2018**

- Machine Learning (Standford University) - *Coursera*
- Machine Learning with TensorFlow on Google Cloud Platform (Google Cloud) - *Coursera*
- Stanford University CS231n, Spring 2017 - *YouTube*
- Android App Development (Vanderbilt University) - *Coursera*

Cryptocurrency Mining **2017 - 2018**

- Mine Ethereum using Claymore Miner with up to 8 GPUs (mix of 1080 TI, 1070 TI, and 1070)
- Actively engaged in the crypto and GPU market
- Programmed an application in Python to alert system crashes and hash rate drops by email

Electrical Engineering

Student 18

As a passionate second year undergraduate student from University of Toronto, I am looking for internship opportunities to gain knowledge and practical experiences in the field of electrical and computer engineering.

PROFILE

- Strong communication skills, collaboration, teamwork, critical thinking, hardworking and open-minded skills developed through academic and extracurricular experiences
- Competent in C, C++, Verilog, Vue.js, jQuery, HTML, CSS, Matlab, Multisim, ARM, Microsoft Project, Excel, and Word

EDUCATION

The University of Toronto, Toronto **Sep 2017 - Present**

- Second year student in the Faculty of Engineering, working towards an Electrical Engineering major and Engineering Business minor
- In UTRA Sumo Robotics club; programming and designing an autonomous robot in a mini-sumo competition

Canadian International School of Hong Kong (CDNIS) **Oct 2013 - Jun 2017**

- Achieved an IB score of 42 out of 45 and OSSD score of 95.5%

EXPERIENCE

Frontend Web Developer, WHub **May 2018 - August 2018**

- Revamped sections of the website for WHub, including the Admin side, the public website, and the Finhack website; written using Vue.js framework, jQuery, HTML, and CSS
- Ability to meet deadlines, seek help when necessary, and work collaboratively on different sections of code
- Gained valuable communication skills through conversing with company representatives from the numerous events attended by WHub, namely RISE (largest tech conference in Asia)

Financial Advisory Training, Primerica **Apr 2018 - May 2018**

- Training to attain qualifications as a part-time financial advisor for middle-income families with the purpose of acquiring useful knowledge regarding finance such as insurance, investments, and debts.
- Attended company meetings 3 hours for 4 days a week and 1 on 1 training with manager; working towards a life and mutual funds license

Engineering Design Project, University of Toronto **Sep 2017 - Dec 2017**

- Team Leader for the development of a design for forest fire detection; project consisted of completing a Project Requirement document and Conceptual Design Specification document
- Responsible for assigning tasks to each team member, managing internal deadlines, managing team members such as team conflicts, and ensuring project is up to team standards

Summer Engineering Program, University of British Colombia **Jul 2015 - Aug 2015**

- Developed my interest towards engineering through mini projects such as: creating the most durable concrete, programming and constructing a robotic car, and designed a 3D printed object
- Worked collaboratively with a diverse team; team leader for final group presentation about entire summer program experience that resulted in third place

PROJECTS

- Go in C | Archery game in Verilog | Google Maps API in C++

AWARDS

2017 Made it on the university Dean's List in Engineering | Awarded the Maple Leaf Award for achieving above 94.5% OSSD average in final year of high school

Student 19

Electrical Engineer

Education

2021

University of Toronto, Electrical Engineering

- Relevant Courses: Digital Systems, Computer Organization, Signals and Systems, Electric and Magnetic Fields, Introductory Electronics, Circuit Analysis, Computer Fundamentals, Communication and Design

Experience

2018-05 - 2018-09

Electrical Engineer Intern

Steel Equipment Specialists Automation

- Created a method to autogenerate a cable termination list of Panel schematics using AutoCAD Electrical to improve the design process and, allowing designers to go from a manual method to automatic method resulting in efficient delivery of schematics to clients
- Reviewed and designed templates of regularly used Panel elements that could be added to any Panel schematic, increasing efficiency for designers by an average of 3 hours
- Updated Panel schematics and cable termination list with correct PLC's allowing SES to provide client with updated Panel schematics that met all safety requirement
- Collaborated with the Project Manager to research and add correct specifications of equipment to design proposals enabling timely delivery of a design proposal
- Constructed scripts to read a database in VBA and used FactoryTalk View Studio for developing and testing HMI for a client of Steel Equipment Specialist Automation Incorporation

2017-07 - present

Program Instructor and Assistant

Cornell and Centennial Community Center

- Create and facilitate programs for toddlers and children enhancing team working skills, communication skills and creativity
- Evaluate programs on a monthly basis to ensure programs follow City guidelines and update program databases on cities website, increasing program registration in the winter session by an average of 10 people per program
- Resolve problems and conflicts effectively, maintaining program records including incident reports and ensuring safety of all participants

2018-01 - 2018-04

Project Manager

University of Toronto

- Implemented a highly accurate solution improving company steel slab transfer by 25%
- Developed a Gantt chart, Excel sheets, agendas, budget and meeting minutes for successful completion of the project 2 weeks prior to the deadline
- Organized an effective strategy for optimization of team communication and performance

Design Projects

2019-01 - present

FastTransit GIS Project

University of Toronto

- Collaborate on a competitive project with three members to design a GIS application with a focus on assisting people using the transit system
- Develop efficient data structures and in C++ to facilitate multiple back-end functions of the map
- Currently on UX/Graphics research phase of GUI implementation to ensure peak usability and responsiveness

2018-11 - 2018-12

Hardware Design

University of Toronto

- Programmed a fully implementable game of the popular android game "Pop the Lock" using Verilog
- Implemented additional features into the game so that the player can choose their level of difficulty.
- Enhanced the algorithms that would make the game easier or harder depending upon the user's choice.
- Presented the project in class for a hardware course (ECE243) and received bonus points for implementing a highly functioning game

Extracurricular Activities

Engineers Without Borders Mentor-University of Toronto

- Mentored high school teams through engineering design projects on local problems with bi-weekly workshops
- Applied the building codes and regulations to design an all gendered high school washroom
- Raised awareness through events about global challenges to inspire the next generation to tackle problems with confidence resulting in the recruitment of 8 additional teams from the Greater Toronto Area

Electrical and Computer Engineering Ambassador-University of Toronto

- Responsible for organizing and leading events for prospective students looking to enroll in ECE at the University of Toronto.
- Led campus and lab tours for prospective students at various occasions and provided information about the program at the opening presentation.

Personal Info

[redacted]

Skills

Microsoft Suite

Project Management

Leadership Experience

Critical Thinking

Communication

Languages

Urdu

French

Software

- Programming Languages: C++, C, VBA, SQL, Verilog
- Simulation Softwares: Flexsim, ModelSim, Multisim
- CAD Softwares: AutoCAD Electrical 2018.

Student 20

[redacted]

An excellent communicator with a high degree of technical competency. Creative and imaginative, able to collaborate in a team environment. Highly accountable and results driven.

Education

University of Toronto, Electrical Engineering - Bachelor of Applied Science 2nd Year, 2017-2021

Related Skills

- Experience with Multisim, oscilloscope, function generators, DMM's
- C, C++, Git, Verilog, Assembly, MATLAB, VBA (Visual Basics for Applications)
- Microsoft Office (Word, Excel, PowerPoint)

Accomplishments

- National Student Short Story Contest 2016/2017, First Place, Polar Expressions Publishing

Work Experience

Maintenance Engineering Summer Student – Canadian Nuclear Laboratories, Chalk River ON – May – Aug 2018

- Programmed in VBA to develop a self-updating scheduling spreadsheet for work processes
- Developed procedures for maintenance activities of nuclear waste storage to ensure safety
- Utilized technical drawings and documents to create operator instructions of alarm instruments
- Performed field visit walkdowns, adhered to radiation safety protocols

Shift Manager, Sales Associate – Ricki's & Bootlegger, Pembroke ON – Aug 2015 – 2017

- Managed associates by providing feedback and instruction
- Preparation of reports and statements
- Assist customers in positive and friendly manner

Engineering Design Experience

Mapping Software Design Team – Communication and Design, University of Toronto – Winter 2019

- Create reports on team progress, maintain wiki page with internal deadlines and status updates
- Determine appropriate data structures for faster access of mapping information
- Design human interface and functionality software with a usability and responsiveness focus

Team Leader – Engineering Strategies and Practices Project, University of Toronto – Winter 2018

- Organized meetings and facilitated the idea generation stage of project design
- Collaborated with four other teammates in research and development of Project Requirements and Conceptual Design Specification documents
- Designed system alterations to improve energy efficiency of commercial Reverse Osmosis system

Extracurriculars

Intramural Soccer – University of Toronto Women's Division, Sept 2018 – Apr 2019
Volunteer Assistant Coach – Pembroke Cross Country Ski Club, Forest Lea, ON - Winter 2013-2016

Student 21

ELECTRICAL ENGINEERING STUDENT

[redacted]

Technical Skills

Programming C, C++, MATLAB, Java, Verilog, ARM, Arduino

Tools & Software Android Studio, Inventor, 3DS Max, Quartus, Multisim, Simulink, MS Project, MS Excel, MS Visio, Git

Education

University of Toronto *Toronto, Canada*

BACHELOR OF APPLIED SCIENCE IN ELECTRICAL ENGINEERING, 2ND YEAR *Sept. 2017 - April 2021*

- CGPA: 3.83
- Fall 2017/ Winter 2018 Dean's Honour List
- General Motors Women In Electrical And Mechanical Engineering Award ($4481)

Work Experience

Assistant Intern *Shanghai, China*

XING TONG MECHANICAL AND ELECTRICAL EQUIPMENT CO. *Jul. 2018*

- Programmed KUKA robot to perform workstation actions using teach pendant
- Learned about implementation of industrial robots in assembly lines

Summer Research Intern *Shanghai, China*

EASTONE AUTO *May. 2018 - Jun. 2018*

- Collected and compiled materials on lane keeping assistance and car automation
- Developed PowerPoints and flow charts using Visio to introduce project

Projects

FoodFinder

COURSEWORK FOR ECE297: COMMUNICATION AND DESIGN *Jan. 2019 - April 2019*

- Achieved 1st in 110 teams in course in finding the best quality/fastest route in travelling salesman problem
- Implemented the ALT algorithm - resulting in searches 4.5 times faster than Dijkstra
- Used OpenStreetMap and C++ to build mapping GIS which takes a database of all intersections and streets in a city and draws a map using EZGL

Simon

COURSEWORK FOR ECE243: COMPUTER ORGANIZATION *April 2019*

- Developed pattern matching game, using ARM and C on a DE1-SoC
- Interfaced push buttons with monitor for game display using VGA

Smart Car Unlock

UOFTHACKS VI *Jan. 2019*

- Enhanced user experience by implementing SmartCar API in an android app to unlock car doors remotely
- Improved security by employing Microsoft Azure's Face API for facial recognition to recognize "trusted users"

Scramble It!

UTRAHACKS HARDWARE HACKATHON 2018 *Nov. 2018*

- Designed base pieces using Inventor and Solidworks (sent to be laser cut)
- Developed algorithm to randomly turn faces of a Rubiks cube

Education in Haiti

PROJECT MANAGER FOR APS112: ENGINEERING STRATEGIES AND PRACTICE *Jan. 2018 - Apr. 2018*

- Delegated and organized tasks for group of 5, utilizing Microsoft Project to create weekly Gantt charts
- Developed project requirements, conceptual design specifications, and prototypes to implement Khan Academy in rural Haiti

Student 22

[redacted]

Electrical Engineering

[redacted]

[redacted]

[redacted]

Enthusiastic second-year Electrical Engineering student; completed several academic and client projects, including data interface design for HVAC system and GIS map development, with great understanding and use of C/C++, MATLAB and 3d sketch-up. Delivered each project under requirements and before deadline.

Skills

Technical Skills: Proficient in C/C++, ARM Assembly and Verilog languages. Fluent using Git, Sketch-up, MATLAB, Quartus II and MS office (Power-point, Word, Excel). Knowledge on data structures, sorting algorithm and project-oriented programming.

Team-work Skills: Strong Communication, presentation, able to understand and work within dynamic team.

Personal Skills: Fast learner with excellent time-management and able to work under high pressure.

Languages: Speak and write in fluent English and Mandarin

Education

2017-09 - 2021-04 University of Toronto, St. George Campus, *B. A. Sc.* in Electrical Engineering

Annual GPA: 3.74/4.0

Relevant Courses: Computer Fundamental, Programming Fundamental, Digital Circuit, Circuit Analysis, Signal and System, Engineering Strategies and Practice

Academic Projects

2019-01 - present **GIS Map Application**

- Designed based on the state of the art of Geographic Information Systems
- Used sorting algorithms and data structures to perform high speed searching
- Visualizes the map with better user experience and responsiveness using color-coding and labeling
- Programmed functions to display current Highway traffic condition

2018-10 - 2018-11 **Verilog Project on FPGA(*Stacking Box*)**

- Used Verilog and Quartus to build the project with proper usage of ROM, RAM, registers and VGA.
- Constructed Finite State-Machine to control and communicate the signals with Datapath.
- Used Multiple FSM structures to achieve the diversiform program path and multiple game results.

2018-01 - 2018-04 **HVAC system data interface design**

- Designed web interface for company WeavAir to visualize and control current data (temperature, humidity)
- Designed the interface with easily adapted structure for high usability and responsiveness
- Implemented entry methods using QR Codes for quick access to specific data interface
- Managed team work evenly and completed project before official and internal deadline

International Volunteer Experience

2018-05 - 2018-06 **English Teacher**

AEISEC Poland Katowice, Local high schools

- Communicated about the cultural differences between Canadian, Chinese and Polish culture
- Transforming any stereotypes the students may have in order to enhance audiences' interest and present high-quality English teaching, in both communicating and writing.

Electrical and Computer Engineering

Student 23

[redacted] [redacted] [redacted]

Passionate, dedicated, self-motivated bilingual Electrical and Computer Engineering Student with extensive training and hands-on experience in planning, designing, building, testing, and deploying complex projects, practical solutions

EDUCATION

University of Toronto, St. George Campus, Toronto, ON: Anticipated 2021

Bachelor of Applied Science and Engineering (2nd Year) – Electrical and Computer Engineering

- Relevant Coursework: ECE 244**: Data Structure Fundamentals**, ECE 243: **ARM, Assembly coding, C**
  ECE 241: **Hardware fundamentals**, implemented a robotic arm with camera (FPGA, Arduino)

SELECTED HIGHLIGHTS

- Installed internet for 70+ residential customers per established procedures using **Fiber Optic technology.**
- **Performed troubleshooting, analysis,** and system improvements to optimize Wi-Fi, signal coverage, and various networks for 3+ accounts daily. (Professional Experience at Bell)
- Created and Designed an Iphone app during MakeUofT 2019 to communicate with our hardware side. Using Swift & GCP
- Collaborated with one other classmate to design, build, program, test, and present a **robotic arm** capable of detecting objects with top-mounted **camera** using a **FPGA** (Verilog and Quartus). **Video demo**: https://bit.ly/2ESc5Dt
- Knowledge in using **ARM Processors**, FPGA (DE1_SoC from Altera), and programming them with assembly and Verilog
- Designed and implemented a mapping software by using Data structures and OSM Database

CORE COMPETENCIES

- **Software & Hardware Design**
- **Object-Oriented Programming**
- **Agile Development**
- **Iterative Design**
- **Testing & Documentation**
- **Innovative Designs**

PROGRAMMING LANGUAGES & SOFTWARE EXPERIENCE

- **Proficient in: C, C++, Verilog, Assembly, Swift**
- **Proficient in: Quartus, Modelsim, Git, Gtk, Eagle, Fusion 360, AutoCad, Xcode**

PROJECTS

Robotic Arm object detector using FPGA and Arduino | ECE 241 | 2018

- Collaborated with one other classmate to design**, build, program, test, and present robotic arm** capable of detecting objects with top-mounted camera. Video demo: https://bit.ly/2ESc5Dt
- Employed **Verilog** to process and program everything on **FPGA**.
- Attached **Arduino to FPGA to control arm movements** using servos, and motor controllers to ensure secure connection.

GIS Project (On Going C++) | University of Toronto | 2019

- Utilized **OpenStreetMap OSM Database** to create a mapping software in C++
- Used **Data Structures and Algorithms** to store large amount of data of cities (over 22 million data points)
- Employed an **Iterative Software Development Life Cycle** and version control system **(Git)**
- Created an enhanced user interface (using **Gtk**) based on current market standards in GIS applications.

Robotics Club | Jean Vanier Catholic High School | 2015 to 2017

- Acted as **lead builder and designer for Vex competition** (Top 10/100) robots for two years, producing four robots in total.
- **Managed seven team members**, motivating them, aiding them with brainstorming ideas, and debugging robots.
- Assisted team **in programming robots using C**, and in assembling robots.

PROFESSIONAL EXPERIENCE

BELL TECHNICAL SOLUTIONS | TORONTO, ON | 2018

Summer Student Technician

- Performed troubleshooting, analysis, and system improvements to optimize Wi-Fi, signal coverage, and various networks.
- Managed $10,000 hardware and accessory in Fiber Optics equipment.
- Used technical expertise and analytical skills to read and interpret drawings, diagrams, blueprints, specifications, reports.

Student 24

[redacted]

Education

University of Toronto | 2017 - Present

- Major: Electrical and Computer Engineering
- Coursework: engineering strategies, electrical fundamentals, programming in C and C++

Skills

- Programming Languages: Java, C , C++, MATLAB, Python, HTML, CSS, ARM Assembly
- Language: Fluent in Arabic and English
- Microsoft Office Package
- Miscellaneous: teamwork, object oriented design, software testing and debugging, version control

Projects

Graphical Mapping Application | 2019 - Present

- Used OpenStreetMap API develop a GIS dedicated for to tourists and new residents.
- Contains up to 22 million nodes in cities as large as Tokyo.
- Collaborated with 2 other teammates and used Git to incorporate their edits.

Credit Card Activation System Development for Capital One | 2018

- Cooperated with a team of engineering students to develop an improved design of the current application process for credit cards.
- Lead the communication management between the design team and Capital One representatives.
- Proposed design reduced the process time length from 21 days to about 30 minutes.

Snakes and Ladders Hardware Game | 2018

- Used Verilog language to implement the display and game logic.
- Integrated the created circuit into the DE1 SoC FPGA board.
- Game is played on the board keys while the game board is presented on a VGA screen.
- Made substantial use of Finite State Machines (FSMs) using control signals to determine the data path and VGA monitors display manipulation with the use of MapInfo Interchange Format (MIF) files.

Experience

Teacher Assistance | Rene Gordon Elementary School | 2014

- Supported teachers and gave aid to elementary students during lunchbreak and after class.

Driver Assistant Food Delivery Service For Better Living | 2015

- Delivered food to elders entrusted by the organization.
- Assisted the driver by carrying the supplied meals after reaching designated waypoints.

Extracurriculars

University of Toronto Robotics Association – Light Combat | 2018 - Present

- Researched, connected and tested different components for light weight battle bot.
- Team participated in the 2019 Robobrawl tournament and reached round 5 of 7.

Stage Organization Management and Repertoire Performance | 2013 - 2017

- Set up performance stage structure and organized required equipment.
- Constructed musical pieces and performed during school assemblies.

Student 25

EDUCATION

Bachelor of Applied Science and Engineering, University of Toronto, 2nd year 2017-2021
Electrical and Computer Engineering (ECE)

- Placed in the Dean's Honor List twice 2018-2019
- Relevant Courses: Electric Fundamentals, Digital Systems, Programming Fundamentals, Circuit Analysis, Engineering Strategies & Practices I & II
- Relevant Courses to be completed by April 2019: Computer Organization, Communication and Design

TECHNICAL SKILLS

- Programming Languages: C/C++, Python, Arduino, ARM Assembly Language
- Analysis tools: MATLAB, Quartus Prime, ModelSIM, Simulink
- HDL (Hardware Description Language): Verilog
- Linux Environment and Git Version Control proficient

RELEVANT EXPERIENCES

Team member, **Map Application Project,** University of Toronto Jan – Apr 2019

- Programmed a map application using the C++ programming language, utilizing the OSM (OpenStreetMap) database and its provided API to draw geographical locations
- Implement Djikstra's Algorithm to find the shortest path between any two intersections.
- Programmed an algorithm that aims to find the optimum solution to the "Travelling Courier Problem" by implementing techniques such as Greedy Algorithm, Two-Opt, Tabu-Search, and multi-target Djikstra
- Utilized the GTK toolkit and EZGL graphics package to design the main user interface and allow interactivity of the map (able to pan, move, and zoom to any desired location defined in the map)

Team member, **"Shotgun" Hand Game Verilog Project**, Personal Project Nov - Dec 2018

- Created a computerized version of a classic hand game called "Shotgun" using Verilog HDL
- Utilized Quartus Prime to program the algorithm, and ModelSIM to run simulations and aid in debugging process throughout the project
- Implemented using an FPGA (specifically a DE1-SoC board), a VGA display, and a PS/2 Keyboard

Team member, **"Rocket-Blocks" Mini-game ARM Assembly/C Project,** Personal Project April 2019

- Created a mini-game where player controls their ship with a keyboard to avoid incoming obstacles
- Programmed using a combination of the C programming language and ARM Assembly Language
- Implemented using an FPGA (specifically a DE1-SoC board), a VGA display, and a PS/2 Keyboard

Project Manager, **Eng. Strategies & Practices Project,** University of Toronto Jan – Apr 2018

- Managed a client proposal project with a team of 6 students to propose a solution to support large trees that have been affected by continuous soil erosion in one of Toronto's downtown (Moore Park Area)
- Effectively allocated work within the group using a Gantt Chart and maintained effective communication within the group clients and engineering managers
- Presented the proposal to clients and engineering managers. Proposal and presentation was highly praised by the clients, and was chosen to be presented in a symposium held on September 2018

Student 26 [redacted]

Education

University of Toronto (St. George Campus), Toronto, Ontario — Expected Graduation: 2021
Bachelor of Applied Science (BASc), GPA: 3.70 (cumulative)
Second Year Electrical & Computer Engineering

Crescent School, Toronto, Ontario — 2017
Ontario Secondary School Diploma, Graduating Average: 92%
School Prefect, 2016 - 2017
Board of Governors' Award, 2017 (awarded to one graduate in recognition of academic and co-curricular achievement)

Work Experience

Outland Reforestation, *Tree Planter,* Thunder Bay, Ontario — 2018
- Experience managing land, and working on a team under high pressure circumstances
- Top 2 rookie planter

Camp Awakening, *Counsellor,* Minden, Ontario — 2017
- Camp Counsellor for youth with physical and intellectual disabilities
- Ensuring the safety/well-being of campers, incident documentation (health related, behavioral etc.)

Craigleith Ski Club, *CSIA Level 2 instructor,* Collingwood, Ontario — 2015 - 2017
- Alpine Ski Instructor and Racing Coach for youth athletes, as well as adults
- Designing drills to target specific technical aspects of skiing
- Ensuring the safety and well-being of students, incident documentation

Kilcoo Camp, *Leader in Training (LIT),* Minden, Ontario — 2015 - 2016
- Assistant Camp Counsellor for youth ages 7-14

Projects

- C++: Geographic Information System (GIS) City Mapping GIS Program (uses the OpenStreetMap Database)
  - Uses a variety of graphics and UI features; can find and display the fastest travel route between locations, (route found through a number of optimal efficiencies, path-finding algorithms); can be used on different cities
- C++: Asteroid Shooter arcade game (concept based on the 80's arcade game *"Asteroids"*
- Verilog/Quartus: FPGA/VGA Virtual pet game (concept based on 90's handheld game *"Tamagotchi"*)
- Verilog/Quartus: FPGA/VGA Soccer "keep ups" based arcade game

Volunteer and Co-curricular Activities

Engineering Design Team, *Project Manager,* Toronto, Ontario — 2018
- Designed an inexpensive robotics kit to promote STEM education in developing countries
- Experience engaging with a client, and providing status updates in the form of documents, models and simulations
- Monitored design progression, and ensured milestones were met using software tools such as Microsoft Project

Ontario Track 3 Ski Association, *Instructor,* Collingwood, Ontario — 2015 - 2018
- Alpine Ski Instructor for youth athletes with physical and intellectual disabilities

Crescent School Athletics, Toronto, Ontario — 2012 - 2017
- Varsity Rugby Team Captain, MVP, and David LaForest Memorial Award Winner, (2016 – 2017)
- Varsity Soccer Team MVP, (2016 – 2017)

Firgrove & Highview Public Schools, *Tutor,* Toronto, Ontario — 2015 - 2016
- Academic Tutor for children of lower income families

Skills

- Software skills: C, C++, Assembly, Verilog, MatLab (and Simulink), Microsoft Project & Excel, git
- Spoken Languages: Fluent in English and French (DELF B2 certification)
- Bronze Cross & CPR-C, Standard First Aid, CSIA Level II Ski Instructor

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EDUCATION

University of Toronto | BASc Electrical and Computer Engineering (2nd Year)| Class of 2021 | Toronto, Ontario
CGPA of 3.60 on a 4.00 scale | Dean's Honour List in 1st and 2nd year | J. Edgar Mcallister Foundation Admission Awards & Edward S Rogers Sr. Admission Scholarship - $4000 | Pursuing an Biomedical Engineering Minor

TECHNICAL SKILLS

Programming: C++, C#, C, Python, MATLAB, JavaScript, HTML, CSS, SQL, VBA, Verilog, ARM Assembly Language
Tools & Libraries: Microsoft Office, AutoCAD, MicroStation, Wordpress, Adobe Creative Suite, jQuery, ROS - Industrial, TensorFlow DL, REST APIs, .NET, Git, Unix/Linux, Ubuntu, FlexSim, ModelSim, Multisim
General: In-depth knowledge of Model Predictive Control, SDLC, Testing Methodology, DBA and IT Standards

WORK EXPERIENCE

Steel Equipment Specialists Automation Inc | Automation Intern | May - July, 2018 | Vaughan, Ontario

- Effectively led the planning, design and development of an HMI for a steel processing plant in Italy using Cimplicity and Rockwell HMI software.
- Independently developed and customized various screens for the HMI's graphical interface using Cimplicity, while abiding by functionality requirements described by the client.
- Constructed scripts in SQL to read a database in VBA and used FactoryTalk View Studio for development and testing of the HMI.
- Improved user interface using UX and creative design principles, resulting in 50 % faster response times by the user and an easy to use GUI.
- Successfully collaborated with the client to develop PLC logic for the plant's control system for pumps, steel cutting and processing machines, resulting in a fully automated and 30% more efficient control system than the one in use before.
- Constructed MATLAB scripts to model the circuits required to make various components of the PLC functional.
- Programmed Python code on Robot Operating Software (ROS – Industrial) to model the control of the steel processing machines connected to the PLC's.

ENGINEERING DESIGN PROJECTS

FastTransit GIS Project | Team Member (Shared Leadership) | Jan, 2019 – present | Toronto, ON

- Collaborating on a competitive project with 3 members to design a GIS application, with a focus on assisting people using the transit system.
- Developed efficient data structures and algorithms in C++ to facilitate multiple back-end functions of the map.
- Developed the graphical interface of the map after extensive research to ensure peak usability and responsiveness.
- Individually developed algorithms in C++ (Dijkstra, A*) to find optimal routes between two and multiple points on the map.

Reversi Game | Design and Developing | April, 2018 | Toronto, ON

- Programmed a fully implementable game of Reversi with an AI that plays against a human in C language.
- Implemented additional features into the game so that the player can choose their level of difficulty.
- Enhanced the AI by adding algorithms that would make the game easier or harder depending upon the user's choice.
- Presented the project in class for a software course and received bonus points for implementing a challenging AI.

ACTIVITIES & LEADERSHIP ROLES

Project Manager | Engineering Strategies and Practices II | Jan – April, 2018 | Toronto, ON

- Managed a team of five to accurately model a highly functional steel slab yard with ModelSim simulation software to increase efficiency of the yard.
- Led meetings to analyze needs of the client, and accordingly developed scope, objectives, and constraints for the project.
- Developed Gantt charts, weekly agendas and a budget for the team resulting in successful completion of the project.

Electrical and Computer Engineering Ambassador | September, 2017 - present | Toronto, ON

- Responsible for organizing and leading events for prospective students looking to enroll in ECE at the University of Toronto.
- Led campus and lab tours for prospective students at various occasions and provided information about the program at the opening presentation.

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[redacted]

Education:

Bachelor of Applied Science and Engineering, University of Toronto, Department of Electrical and Computer Engineering

Minor of Computer Science

Minor of Engineering Business

Minor of Nuclear Engineering

Associated Coursework & Grades: Database（82，A-）, Web Programming（67，C+）, Programming Fundamentals（70，B-）, Computer Graphics（ongoing）, Algorithms and Data Structure（67，C+）, Machine Learning（ongoing）, Probability and Random Process（70，B-）, Communication Systems（70, B-）, Programming Language（ongoing）, Nuclear Engineering（75，B）

Technical Skills:

- **Programming Languages**
  C, C++, JavaScript, HTML5, CSS3, Python, C#, SQL, Verilog.
  Have experience working on Linux/Unix OS
  Github: https://github.com/microshadow
- **Deep understanding and experience of Web Development**
  Have experience of web application development from internship, course project and DIY projects, which also including some web mini-games.
  Be familiar with Bootstrap, React, JQuery, JSON, EJS, AJAX, MongoDB and Node.js.
- **Deep understanding of Database Management Systems**
  In-depth knowledge of Database and SQL queries.

Work Experience:

- **Internship at Ontario Ministry of Health, Software Developer** **January,2019 - Present**
  Worked collaboratively with a team to build and develop an online web application for employees in Ontario Public Service to fill excel based worksheet online. Developing Front-end by React.js while Back-end by MongoDB and Node.js.
  Github link: https://github.com/LesterLyu/MOHLTC-DataProject/tree/dev-lester/frontend

Projects, Laboratory Experience and Certificate:

- **Map Software Project:** **Jan, 2017 - April 2017**
  Build and develop a software program which provides functionality similar to Google Maps by C++ on Linux operating system, plus some other features, UI design.
  Learned from experience: build data structure and implement algorithm, understand how to design UI from users' point of view. gain team work experience, leveraging teammates' skills.
  Github Link: https://github.com/microshadow/MapDora/tree/master/libstreetmap/src

- **Quizzite - web application project** **September – December, 2018**

Student 28

A web application for educational purpose. Educators can make a in-class quiz and view the class result by a chart graphic showing which question students don't understand well. Students can also access and view different chapter/session from different courses for review purpose.
Learned from experience: understanding front-end development including DOM functions, CSS styles and libraries such as Bootstrap, React. And back-end development including data interactive, JSON, MangoDB and Node.js.
Github link: https://github.com/microshadow/Quizzit/tree/master/quizzit

- **White Card:** **Ongoing Project**
  A game-like to-do list with some special features and RPG gaming characters associated with daily tasks. In order to help people improve their self-discipline. Major target population is college students and teenagers. (not finish yet)
  Github link: https://github.com/microshadow/White-Card/tree/master/front-end

- **Hit the Target FPGA game:** **November - December, 2015**
  Build and develop a reaction time based video game which is implemented by FPGA and DE1-SoC board. It involves four targets scrolling upwards along the monitor in fixed columns with each column sporting a crosshair at the top. The player may press the KEY on DE1-SoC board to break the targets when they hover over the crosshair.
  Learned from experience: learn how to implement VGA and build video game by FSM (Finite State Machine) using Verilog.

- **Certificate of Leadership** **January – February, 2012**
  Have fulfilled the requirements of the Engineering Co-Curricular Team Skills Certificate. This program consists of four interactive workshops relating to leadership in organization.

Other Work and volunteer Experience:

- **Internship in Dalian High-tech Zone Heat Power Plant, Dalian, China** **May – July, 2012**
  Worked collaboratively with a team to protect and control, make sure if there is a fault happened somewhere, the fault can be interrupted to prevent people and equipment to get hurt. The operation is during computer software. Also do some documentation translating work from Chinese to English.
- **Volunteer as an writer and editor in an online non-profit commonweal organization**
  December 2015 – October 2018
  Work to persuade teenagers to avoid from some bad hobby by sharing my own experience. Have written and edited some sharing-experience articles to publish for non-profit and manage the Q&A part of the forum.

Student 29

[redacted]

Objective

Very passionate about designing new technologies and exploring new ideas.

Work Experience

TECHNICAL CONSULTANT | BEST HOMES | JUNE 2017 - AUGUST 2017

- Designed the website for Best Homes Canada and implemented various APIs
- Enhanced and edited photographs for the website
- Implemented search engine optimizations
- Developed a client database in Microsoft Excel

Education

BASC - ENGINEERING | 2017 - 2021 | UNIVERSITY OF TORONTO – ST. GEORGE

Major: Electrical and Computer Engineering

Related activities:

- Member of the student government at the University of Toronto Engineering Society
- Member of the UTAT Aerial Robotics Team which designs drones to compete in a competition

Skills & Abilities

TECHNICAL SKILLS

- **Operating Systems:** Windows, MacOS, Linux and Unix
- **Software:** Microsoft Office Suite (Word, Excel, PowerPoint, Access), Quartus, Adobe Photoshop, Adobe Premiere and NI Multisim
- **IDEs:** CodeLite, NetBeans, Visual Studio and Xcode
- **Programming:** C, C++, Python, MATLAB, Verilog and ARM Assembly Language
- **Hardware:** Networking, Soldering and Assembling Computers

LANGUAGES

English, French, Mandarin, and Cantonese

CERTIFICATIONS

- Standard First Aid by Lifesaving Society Ontario
- 3D Printing by Gerstein Science Information Centre
- Valid Ontario driver's license

PROJECTS

- Designed a musical keyboard using logic gates and a breadboard
- Created an autonomously moving robot using a Raspberry Pi connected with sensors and motors by soldering
- Designed a password protected notepad application on Android Studio
- Created a GIS maps program written in C++ implemented with A* and simulated annealing for the shortest path algorithm

Volunteering

ASSISTANT INSTRUCTOR | MARKHAM PUBLIC LIBRARY | JULY 2015 – AUGUST 2016

- Helped students at the Markham Public Library develop basic programming skills
- Demonstrated different programming commands they could use to create their own code

COMPUTER TECHNICIAN | ZENICA OPTICAL | JULY 2016 – AUGUST 2016

- Set up the computer systems and networking devices for Zenica Optical

Student 30

Summary

University of Toronto Electrical and Computer Engineering undergraduate student with a broad range of technical skills and interests. Particularly interested in software development, machine learning, automation, design, digital circuitry, signal processing. Passionate about expanding and utilizing skillset to complete fulfilling personal, academic, and professional projects. Analytical leader, thoughtful about design.

Education

Electrical and Computer Engineering – *September 2017-present*

University of Toronto (3.64 CGPA)

Skills

Programming Languages: Java, C, C++, Python, ARM Assembly, Verilog, MATLAB, HTML, CSS, JavaScript

Skills: Machine Learning Algorithms, Arduino Prototyping, FPGA programming, Digital Audio Processing, CAD of circuit design and 3D objects, Electrical Prototyping, Design Patterns, Git

Design: Arduino, Quartus, ModelSim, SolidWorks, Pro/DESKTOP (CAD), CNC Machining, 3D printing, MicroCFD (Virtual Wind Tunnel), NI Multisim

Extracurriculars

- University of Toronto Robotics Association: Sumo Division – September *2017-December 2017*
- Varsity Wrestling Team – *2017-present*
- Hart House Jazz Ensemble – September *2017-December 2017*

Awards

- UTEK Consulting First Place - 2018
- University of Toronto Engineering Dean's List – 2017, 2018
- Centennial Award, for academic, athletic, and extracurricular excellence – 2017
- Peter Harshaw Award, for academic and athletic excellence – 2017

Projects and Experience

OSM Mapping Project – *January 2019 – April 2019*

- Working in a team of three to create an interactive mapping application in C++ using Git for version control
- Responsible for optimizing algorithms and creating efficient data structures as well as presenting proposals and progress updates to a Communications Instructor

Hardware Digital Audio Workstation – *November 2018-December 2018*

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- Worked in a team of two to program an FPGA using Verilog to create a digital audio workstation. A condition of no software assisting the DAW was applied to the project.
- Responsible for signal generation and modification, communicating with audio codec on board, graphical representation of recording using VGA adapter as well as architecture and implementation.

The Hatchery 2018 Nest: 40Love – *May 2018-September 2018*

- Worked with a team of two other individuals to propose a competitive level tennis solution for players to improve their technique without a coach.
- Prototyped sensors using Arduino that would fuse visual and inertial data using a Kalman filter, as well as developing a mobile application UI.
- Delivered multiple pitches to investors, experts and mentors.

Engineering Strategies and Practice II: WeavAir Safety Device – *January 2018-April 2018*

- Lead a team of 4 other individuals to design a sensor casing and hazard notification system for WeavAir Inc. that could withstand global construction environments and still be comfortable for the user to wear.
- Used a reiterative and systematic design process that lead to an effective solution. Design was measured as successful by performing finite element analysis of simulated conditions on the safety device as well as real world testing.

Coding Help Session Volunteer – *January 2018 – May 2018*

- One of two students who provided supplementary assistance to 30 students struggling to program in C.
- Systematic debugging strategy lead to quickly finding errors in code, but also teaching others how to better debug their own code.

UTEK Consulting Category: 1st Place – *January 2018*

- Lead a team of 3 other individuals to propose an infrastructure solution that would meet Ontario's energy demands to a panel of judges comprised of industry, research, and business experts. Economic, environmental, social, and political impacts were evaluated.
- Competition pool was 88 individuals

Engineering Strategies and Practice I: Forest Fire Detection – *September 2017- December 2018*

- Lead a team of 4 other individuals to propose a design to detect forest fires in Northern Ontario

F1 in Schools – *September 2014-February 2015*

- Designed vehicle using Pro/DESKTOP, MicroCFD in a reiterative manner achieving a drag coefficient of 0.22.
- Machined vehicle from balsa wood blank with a CNC Machine and specialized parts manufactured from 3D printer.

Student 31

[redacted]

EDUCATION

University of Toronto 2018-present
2nd year Electrical and Computer Engineering

Previous Employment

Director of the youth rowing camp at Don Rowing Club July, August 2017, 2018

- Led and trained a team of 5 volunteers and 2 paid coaches.
- Designed a summer camp program with the goal of teaching kids how to row.
- Communicated in person and by email with clients and coaches and dealt with many problems or concerns from parents and students. The camp increased the club's junior membership subscriptions by 2x.

Skills

Technical:	Social:	Other:
C and C++ programming (advanced)	Bilingual, French & English	Varsity rowing team, UofT
Verilog (advanced)	Strong oral presenter	Avid piano player
Assembly (advanced)	Experienced team leader	Certified Lifeguard
MATLAB (intermediate)	Practiced teacher	
Multisim (intermediate)		
Circuit design (intermediate)		

Athletic and Academic Achievements

Canadian National Trials, Under21 rowing team – 4th place overall (at 19 years old) 2018
ROWONTARIO scholarship recipient for combined academic and rowing excellence 2017
Selected for Team Canada Under19 rowing team & competed internationally, 2016
receiving 2nd place in the Men's Double at CanAmMex competition.

Academic Projects

- Developing with a team of 3 a large-scale 4-month long software project of an interactive map of Toronto that is aimed at helping first responders navigate the fastest routes around the city. Current Grade: 83%.
- Programmed an Atari Asteroids style game along with AI in C++ from given game mechanics. Implemented an AI that scored 30/191 in the class.

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- Programmed a platform game purely in Verilog where the player needs to dodge blocks falling from the sky. Received a mark of 89%
- Programmed “Reversi/Othello” in C with basic AI designed from C standard library. Received a mark of 98%
- Programmed a boat simulator in C using real-life physics and a gyroscope to control the boat.
- Performed an experimental study comparing velocity between rowers with same power but different weight considering differences in drag and weight distribution. Received a mark of B.
- Composed my own piano piece for a short story I wrote and made an audiobook for it. Received a mark of 90%.
- To see the projects, consult my linkedIn profile.

Student 32

[redacted] [redacted]

Education

University of Toronto, St. George Campus **2017 – Present**
- Bachelor of Applied Science, Electrical and Computer Engineering Toronto, ON

Skills

- Thorough knowledge of Object Oriented Programming in C++ and Python
- Proficient with C, Verilog, ARM Assembly, MATLAB, Simulink, Tensorflow, Arduino, Git

Projects

Google Maps Semester Project **01/2019 – Present**
- Worked in a team to program a Google Maps based GIS application in C++, collaborating with Git
- Implemented Dijkstra's algorithm to find the shortest path between locations: runs under 5 seconds
- Displayed live weather data using Dark Sky API, retrieving information with Libcurl web scraper

SUMO Robotics Competition Embedded Software Team Lead **09/2018 – Present**
- Led a team to design a fully functioning robot for robot-sumo competition
- Programmed in Arduino C, making motors respond to line sensor and ultrasonic sensor inputs

DeltaHacks BudgetMAX Project **01/2019**
- Developed an app that helps users manage their finances with a team, classifying large datasets
- Used binary search to optimize the speed at which data would be retrieved and stored
- Successfully stored thousands of randomly generated user accounts and sorted them

Recognizing Handwritten Numbers with Neural Networks **06/2018**
- Implemented neural networks to detect handwritten digits from a dataset with MATLAB
- Integrated backpropagation to achieve 95% accuracy on training model

Extracurricular Involvement and Work Experience

Engineers Without Borders, University of Toronto **09/2017 – Present**
Vice President of Social (Former Director of Outreach), University of Toronto, Toronto, ON
- Ran engineering design workshops for high school students, mentoring over 70 high school students in a design project for local sustainable development

Hart House Pool, Vivo Pool, Bowview Outdoor Pool **03/2015 – Present**
Lifeguard, Camp Counselor, Swimming and First Aid Instructor, Volunteer Calgary, AB

Engineering Science

Student 33

[redacted] is a second-year engineering student who loves projects, eager to learn new skills and meet new people. He is ready to use this internship opportunity to both better his personal goals and contribute to a great project.

EDUCATION

SEPT. 2017 - PRESENT

ENGINEERING SCIENCE, UNIVERSITY OF TORONTO, **CGPA: 3.9**

Engineering Science provides Evan with an in-depth knowledge and understanding in a broad range of fundamental sciences and math, this allows him to pick up any technical skills with ease.

PROJECTS AND RESPONSIBILITIES

2018 MAY – 2018 SEPT

SUMMER RESEARCH STUDENT, INFRAGHG (UOFT)

- Developing OCR app to collect quantitative data from invoices and engineering drawings
- Investigating cement and steel production data from Ontario producers

2018 SEPT – PRESENT

PROJECT MANAGER, NEUROTECH DESIGN TEAM (UOFT)

- Developing OSC servers to connect muse with drone
- Developing handler function to pre-process time series signal
- Facilitate and planning group meeting, organizing work flow and git

2018 JAN – PRESENT

DESIGNER, MOBILE ROBOT THAT DETECT POLE AND DISPENSE TIRE (AER201)

- Responsible for the design of the entire electromechanical system using SolidWorks
- Manufacturing the robot utilizing machining and 3-D printing
- Integrating the electromechanical system with circuits and microcontroller

SKILLS

- Proficient with C, C++ and python
- Experience with JavaScript and HTML
- Proficient in English and Mandarin

REFERENCES

[redacted]

[redacted]

Student 34

Profile: [redacted] is a well-rounded 2nd year Engineering Science Student equipped with knowledge from a wide range of engineering disciplines. His primary focus, however, is Artificial Intelligence, Robotics and Software Engineering. He has in-depth working knowledge of various machine learning algorithms like Linear Regression, Logistic Regression, K-Mean, Principal Component Analysis and deep learning models such as Restricted Boltzmann Machines, Convolutional Neural Networks, Recurrent Neural Networks, Autoencoders, etc. He can apply such models to real problems using TensorFlow and Python while knowing how GPUs and TPUs accelerate machine learning. He is also knowledgeable about FPGAs and Computer Organization.

Education: 2nd Year Engineering Science Student at the University of Toronto. 2017-present

Skills and Languages
Python, C, Matlab/Octave, HTML, JavaScript, CSS, jQuery, D3, C++,Verilog, SolidWorks, TensorFlow, Structured Data Analysis, MS Office tools.

Design Teams

University of Toronto Robotics Association: Pacbot team **September, 2018-present**

- Currently, creating a pacman robot using Raspberry Pi, Python, Pygame and tensorflow that will physically play pacman in a 3D arena. Created a python pacman game using pygame to test the strategies used by the robot which involves the use of Reinforcement Learning.

iLead: The Game **October, 2017-April, 2018**

- Created a high level prototype for a communication platform for Childhood Cancer Survivors. The purpose of this platform would be to allow them to communicate with each other thus preventing their isolation.

Recent Projects

Created a Rover Robot for the IEEE Hardware Hackathon

- Used a Qualcomm Dragon Board 410C, an Arduino UNO and NRF transceivers to create a rover-like robot whose camera footage can be connected to the web and then viewed in a VR headset.

Cone Deployer Robot

- Created the systems software (Line Following, Deployment System and User Interface) for an autonomous cone-deploying robot using a PIC18f4620 microcontroller and Arduino.

Designing a User Interface to Demonstrate the Findings of a Weather Forecasting Project

- Used HTML, Javascript, CSS, and D3 to create a webpage to help show the results of weather data prediction. Initially started using jQuery, but later switched to D3 in order to create finer graphical representations.

Identifying Spam Emails

- Created a spam email identifier using Support Vector Machines and Matlab.

Identification of Handwritten characters

- Used neural networks to identify handwritten digits using MNIST dataset and later extended that to identifying letters.

Defining the Personality of my School's Students and Teachers using IBM Watson Personality Insights (unfinished due to data acquisition issues)

- Attempted to use IBM Watson document analyzer and personality insights API to analyze pieces of texts authored by students and staff of my high school in order to determine the personality of staff and student by grouping similar minded staff and students.

Creating Various Games

- Used Python and Pygame to create games such as Chess (with artificial intelligence), infinite runner games, Agar.io and Pacman. Later, explored unity by writing basic games in C# in order to create games with better graphics.

Student 34

Autonomous Arduino Car

- Created an autonomous wall following car using Arduino.

University Projects
Modeling various systems using Differential Equations and Linear Algebra

- Modelled various physical systems like the flow of pollutants in the great lakes, the flow of air in a gas engine, a bending beam bridge, etc using MatLab in order to observe their behavior over time and implemented Markov Chains using linear algebra.
- Used various data analysis techniques to measure the goodness of models and fits in physics labs.

Relevant Courses: : *Data Structures and Algorithms, Machine learning (Course description: https://www.coursera.org/learn/machine-learning), Deep Learning Fundamentals (Course website: https://courses.cognitiveclass.ai), Deep Learning with TensorFlow, Accelerating Deep Learning with GPU, Engineering Design(AER201), Linear Algebra (MAT185), Differential Equations (MAT292).*

HIGHLIGHTS OF SKILLS

- Proficient in Python, Matlab as well as Microsoft Office Applications (Word, Excel, Powerpoint, etc)
- Has experienced with C programming language as well as Verilog hardware language
- Holds a G drivers license
- Effective communicator and problem solver
- Organized, punctual and adaptable
- Responsible, open minded and resourceful

RELATED EXPERIENCE

Robotics Project, in current progress

- Collaborated with other student engineers to design a tire stacking autonomous machine
- Responsible for the construction of mechanical components as well as circuitry and microcontroller implementation

Praxis Student Engineering, Throughout First Year of Undergraduate studies

- Worked with a student team to solve problems around the community
- developed and designed potential solutions/prototypes
- Authored a Request for Proposal regarding storage problems in a martial arts centre

Peel Planet Day Volunteer, Claireville Conservation Area, May 2015

- Planted trees
- Cleared path in the forest for a walkway
- Learned about endangered species

Ancestors Trail Hike Volunteer, Erin Dale Park, May 2014

- Set up tables and camps
- Carried various equipment

EDUCATION

Cawthra Park Secondary School (Vocal Major), Mississauga, Ontario, 2013-2017
University of Toronto (Engineering Science), Toronto, Ontario, 2017-2021

INTERESTS

- Playing guitar and singing during free time
- Fitness: running, weightlifting
- Playing board/strategy games with peers/family

Student 36

SUMMARY OF QUALIFICATIONS

- Excellent **Team Leader**, coordinated and collaboratively worked in a team of five engineers; integrated separate subsections of modelling a bell nozzle conducted by team members, resulting in **a 5.7% increase** in efficiency
- Demonstrated **creative thinking** and **concept application** by manufacturing a costume built airframe for a racing drone, resulting in **a 4% decrease** in drag coefficient, increasing max velocity without more power input
- Successfully using **adaptability** and the ability to **work in an unfamiliar environment**, managed to learn and help produce simulation data with research standards, resulting in a published paper in Amirkabir University
- **Technical skills:** Solidworks, AutoCAD, Python, C, Arduino, MATLAB, Word, Excel, PowerPoint, Adobe Photoshop

EDUCATION

University of Toronto Sep. 2017 – Present

Bachelor of Applied Science | Engineering Science | Aerospace Specialization

RELEVANT EXPERIENCE

Propulsion Engineer, Nozzle geometry specialty | University of Toronto Aerospace Team (UTAT) Oct. 2017 – Present

- **Worked in a team of 30 engineers** on design and manufacture of a solid fuel rocket which **successfully completed a launch** in May 2017 in White Sands Base, New Mexico.
- **Led a team of 5 propulsion engineers** in enhancing and upgrading the design of the rocket's bell nozzle using **CFD mesh analysis**. Managed to verify the current modelling mesh system by **reproducing the published work** of 10 different researchers and enhanced the **rocket's nozzle output efficiency by 5.7%**
- Working collaboratively with all rocket's sub-system design teams on **design and manufacture** of a hybrid fuel rocket which is aimed to break Canadian altitude record by 2020. **Produced** mesh systems for 7 suggested designs for the new fuel chamber supporting a hybrid fuel and a new bell nozzle.

Fully Autonomous Robot Competition | University of Toronto Engineering Design Course Jan. 2019 – April 2019

- Working in a team of 3, designed and manufactured a mobile autonomous robot which stored 15 tires, detected stacking pole units and the number of tires on each using a laser sensor, and deployed tires on each pole using a rotary disk deployment arm. The robot managed to earn 2nd rank among 60 participating teams in the course.

Vacuum Gyroscope research Internship | Amirkabir University of Technology (Iran) Jun. 2017 – Aug. 2017

- Collaborated with a team of graduated students as a research intern on investigating the factors involved in the efficiency of the vacuum gyro system of the airplane and further modeling its fluid system using CFD tools
- Ran the **simulations on more than 120 sets of data** for varying altitudes and designs which contributed to the team's published paper on an alternative design for the vacuum system used in commercial aircrafts

EXTRACURRICULAR ACTIVITIES

Aerodynamic Stability of a Model Rocket Research Paper | IB Diploma Extended Essay Jun. 2016 – Jun. 2017

- Conducted a one year research on the aerodynamic stability of rockets in Amirkabir University in Tehran.
- Investigated and introduced two major methods to **decrease path deviation of model rockets by 6%** by reducing the weathercock effect on the rocket, the results of which was submitted to IB as part of EE program

Racing Drone developer & DRL Tryout Pilot | Drone Racing League (DLR) 2014 - Present

- **Designed and prototyped** a quadcopter racing drone which ranked 3rd in Iranian national amateur drone design, held in Sharif University of Technology. A costume barrier sensor using Arduino was integrated in the design
- **Enhanced** the drag coefficient of the drone **by 4%** using costume built airframe aiming to take part in DLR annual competition. The Design managed to **pass qualifying rounds** of the DLR's man-controlled race

[redacted]

Education

BASc in Engineering Science (3rd year, in progress) **September 2016 – Present**

University of Toronto

- Specializing in Artificial Intelligence

Experience

Software Engineering Consultant **April 2017 – Present**

Jablonsky, Ast and Partners

- Created and designed a software that transforms data in Excel into AutoCAD drawings and designs structural features with 100% accuracy.
- Contracted to produce specific Engineering software, including mobile applications.

Customer Service Representative **June 2015 – September 2016**

LASH Group of Companies

- Contacted homeowners, and coordinated tradesmen for repairs to condominiums.
- Scheduled and created reports on all condominium repairs (completed or outstanding).

Projects

Hockey Analytics AI **September 2018 – Present**

- Created a tool to analyze and predict the statistics and performance of a professional hockey player, which can be used to evaluate a team's roster.
- Applied ***PyTorch***, with CNN models (and self-collected data) to develop the tool.

Autonomous Robot **January 2018 – April 2018**

- Built an autonomous robot to sort various-sized objects into storage cabinets.
- Collaborated with a team of three students. Responsible for the programming, design and circuitry of the robot (coded in ***C***).

Founder of Sked Inc. **May 2017 – Present**

- Developed a web framework with the goal of automating scheduling for the retail industry (using ***Angular 4*** and ***Django*** for the front-end and back-end of the application).

Technical Skills

Machine Learning Frameworks: PyTorch, TensorFlow

Programming Languages: Python, C, Typescript, HTML, VBA, MATLAB, LISP

Web Development & Databases: Angular 4, Django, Node.js

Other: Excellent leadership, time management, communication and teamwork skills

Other

- Organized Men's Intramurals for the Engineering Faculty at the University of Toronto.
- Judged an Engineering Design Competition at the high school level.
- Recipient of the President's Entrance Scholarship at the University of Toronto.

[redacted]

Student 38

SUMMARY

- Second year student enrolled in the University of Toronto's flagship undergraduate Engineering Science program with a strong interest in business, finance, programming, and data science
- Strong foundation of problem solving, and programming skills enhanced by an exposure to a breadth of mathematical courses
- Strong communication skills through various consulting projects

EDUCATION

Bachelor of Applied Science and Engineering — April 30, 2021
University of Toronto

- Major: **Engineering Science** - Math, Stats, and Finance
- Minor: Machine Intelligence
- Related course work: Programming, Statistics, Advanced Mathematics, Abstract Mathematics (proof and derivations), Physics, Computer Organization, Digital Logic, Engineering Design

SKILLS & ABILITIES

Communication

- Developed a system to track the usage of books at the Toronto Reference Library, through stakeholder consultations.
- Worked with the University of Toronto Student's Union organization to develop an outreach strategy. The outreach strategy helped the organization attain a better public image and perception, while streamlining their dysfunctional communicative structure.
- Designed, constructed, and presented a concept ocean waste scraper for the University of Toronto Engineering Kompetition (UTEK)

Programming

- Designed a completely autonomous, AI, chess player using the minimax algorithm and alpha beta pruning.
- Designed and developed a fully autonomous tire dispensing robot, using the PIC development board and Arduino Nano
- Worked on various quantitative and algorithmic school projects in various languages (C, Python, Java, etc.)
- Completed an Oracle SQL certification course

Leadership

- Currently creating my own business, "Buddy", assembling and facilitating a team of qualified individuals to actualize the concept

Problem Solving

- Enrolled in numerous, highly theoretical and abstract, complex mathematics courses

Student 38

EXPERIENCE

Consultant — September 2018 to Current
180 Degrees Consulting

- Responsible for assisting non-profit organizations attain their financial and organizational goals

Tutor — June 2018 to Current
Liberty Tutoring

- Tasked with teaching grade 12 level mathematics to students

Industrial Engineering

[redacted]

Student 39

[redacted]

[redacted]

EDUCATION

CURRENT

BACHELORS IN APPLIED SCIENCE, *UNIVERSITY* OF TORONTO

Expected graduation: 2021, Field of study: Industrial engineering

EXPERIENCE(SUMMER EXPERIENCE)

05/2016 – 06/2016

INTERN, AIR KENYA

- Tasked with the removal and detailed cleaning of the panels of multiple models of aeroplanes.
- Entrusted with the replacement of worn out breaks on the plane's wheels.
- Charged with the thorough cleaning and replacing of the propeller bearings.

05/2017 – 05/2017

INTERN, BURBRIDGE CAPITAL

- Thoroughly researched and summarized the daily news and business articles relevant to ongoing mergers and IPOs fascinated by the firm
- Shadowed project teams and attained knowledge on how to resolve team conflict and work efficiently.

06/2017 – 06/2017

JUNIOR COUNSELLOR, CAMP BLUESKY

- Entrusted with making sure the children were safe and health.
- Mentored the children through leading by exampled
- Tasked with setting up and leading various activities.

Student 39

06/2017 – 07/2017

DISPATCH INTERN, CHIRAG AFRICA

- Carried out orders, and ensured they were delivered in a timely manner.

05/2018 – 08/2018

SALES ASSISTANT, ROTO MOULDERS

- At Roto I found new customers and persuaded customers that came in to buy more products resulting in the passing of our sales target by over $38,000 USD.
- Took initiative and came up with a new sales strategy resulting in an increase in sales.
- Consolidated and photographed a new list of industrial products.

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SKILLS

- Proficient with Microsoft programs including PowerPoint, Excel and Access.
- Knowledge of multiple coding languages such as Python and Java.

LEADERSHIP

- First-year university student Mentor (Entrusted to lead and counsel first-year industrial engineering students)
- ESP I team Leader
- ESP ll team Leader (In this Project My team and I created a product the could potentially solve the issue of lower extremity injury in the NFL. We then took this product and pitched it to the Toronto Argonauts)

- Accelerator weekend (Lead my team to 3rd place out of 18 teams in this 28-hour entrepreneurial event held event held by the hatchery at UFT)
- University of Toronto hatchery ambassador (Tasked with handling outreach and helping out at Hatchery events)
- Volunteer for SUSO feed a soul (provided food and aid to poor school children in the largest slum in East Africa-Kibera)
- Kenyan President's Award gold
- Climbed Mount Longonot thrice
- Languages: Kiswahili

Student 40

[redacted]

Professional Summary

Detail-oriented Industrial Engineering major. Aiming to leverage knowledge of cross-functional teams, capital projects, and process improvement skills to successfully fill any role given to me by your company. I am passionate about learning and enthusiastic about working in fast-paced, competitive environments. I am in search of any opportunity that challenges me, allowing me to further explore my passion for technology, design and innovation, contributing positively to my personal growth as well as the growth of the organization.

Skills

- Java
- C programming language
- Proficiency with Microsoft Office Suite (Access,Excel, PowerPoint, Word)
- SolidWorks
- R Statistical Software
- SQL
- JDBC

Work History

Research Assistant, 10/2018 to Current
Faculty of Engineering, University Of Toronto – Toronto, ON

- Performed research on the outreach, diversity and equity practices of other universities.
- Assisted in the production and editing of reports.
- Co-ordinated with consultation groups to set up meetings.
- Produced meeting minutes on a monthly basis.

Student Intern, 05/2018 to 08/2018
Nu Iron Unlimited – Point Lisas Industrial Estate, Trinidad And Tobago, W.I.

- Collaborated as part of a cross-functional team on projects for the 2018 September Outage.
- Assisted in management of project timelines.
- Created 3D models of equipment such as square flanges, rock ladders and tube racks using Solidworks.

Education

Bachelor of Applied Science And Engineering: Industrial Engineering, 2021
University of Toronto - St. George Campus - Toronto, ON

- GPA: 3.45
- Awards and Honours: Lester B. Pearson International Scholarship, Dean's List Fall 2017 and 2018, Dorothy Jean Powell Award 2017 and 2018.

Extra-Curricular Activities

Design for X- Physical Design Team

- Collaborated as part of a cross-functional team to partner with companies' UX teams and help drive their decision making by iteratively conducting user research and testing.
- Applied collected data to build prototypes based on human-centred design principles.
- Previous partner: Cineplex.

Start-ups

Project Manager at RE: Online Magazine

- Managed project execution to ensure adherence to budget, schedule, and scope.
- Identified vendors or consultants to meet project needs.
- Produced meeting minutes on a monthly basis.

Student 41

EDUCATION

UNIVERSITY OF TORONTO **Toronto, ON**
Bachelor of Applied Science in Industrial Engineering (2nd Year) Sep. 2017 – Present
CGPA(Cumulative): 3.57/4.0-Dean's Honour List GPA(Sessional): 3.88/4.0
Relevant Courses: Engineering Design, Engineering Economics and Accounting, Statistics, Operations Research

TECHNICAL SKILLS

- SQL Data Definition Language
- C, Java Programming
- R Language
- Gurobi
- Microsoft Office (Word, Excel, PowerPoint)
- MATLAB
- AMPL

WORK EXPERIENCE

Data Management Assistant, BeyondSpring Pharmaceutical Company **New York City, US**
- Analyzed numerical clinic data with statistic models to provide researchers with data about post-experimental drugs result
- Marketing research based on potential clients and numbers of competitors

Salesman, BMW **Zhengzhou, Henan, China**
- Interacted with customers to meet their requirement regarding vehicles information and functionality
- Contacted customers to receive feedback about our service

PROJECTS

Team Member, Innovation Hub Workspace Interior Design **Jan. 2018 – Apr. 2018**
- Collaborated with four group members and a client to create an interior design of the workspace.
- Analyzed CAD graph of the workplace and chose appropriate furniture from verdures for University of Toronto
- Created a live 3D walk-through to demonstrate the design

Team Member, Accelerator Weekend by the Hatchery **Jan. 2019**
- Worked with three group members to build a start-up model
- Pitched our model to judges to receive an investment
- Competed with 80 participants, and our group made to the final round of competition

AFFILIATIONS

- Engine Team Member, University of Toronto Formula Racing Team **Oct. 2017 – April. 2018**
- Member, University of Toronto Iron Sports Squad **Sep. 2017 – April. 2018**

INTERESTS

Reading, Strength Training Fitness, Investment, History, Entrepreneurship

Mechanical Engineering

Student 42

Mechanical Engineering [redacted] [redacted]

SKILLS SUMMARY

- Experience working in fast paced environments, with minimal supervision, a formidable team player, and a quick learner
- Punctual, eager to learn, adaptable and comfortable working long hours and taking on extra duties
- Computer literacy in Microsoft Office (Word, Excel, PowerPoint, Outlook etc.)
- Basic programing in C, and MatLab
- Experienced with Arduino, Tetrix, Vex, and EV3
- Basic Machining (machine shop safety, lathe, mill, drill press)
- Proficient in SolidWorks, and familiar with Ansys and Minitab

EDUCATION

Candidate for Bachelor of Applied Science in Mechanical Engineering, University of Toronto **2017-2021**

- Awarded the Faculty of Applied Science and Engineering Admission Scholarship, merit based

King's Academy, Madaba, Jordan **2013-2017**

- Granted the Physical and Life Sciences Award

WORK EXPERIENCE

ProgressSoft Corporation – Amman, Jordan **May 2018 – Aug. 2018**

- ProgressSoft is a software development company for imaging technology and real-time payments solutions
- Worked with software development team on mobile payment system
- Received training in Agile Development Team Structure, and Java development
- Attended daily group meetings and weekly online international meetings

RELEVANT PROJECT & COURSEWORK

APS 111 – Early Detection of Forest Fire Design Project **Sep. 2017 – Dec. 2017**

- Designed a forest fire detection system for Northern Ontario, that is faster than the existing system
- Involved researching current methods of fire detection
- Engineering design specifications were developed to asses potential designs
- Three possible designs were developed and one final design was chosen
- The final design was forestry multi-sensors that can detect early signs of forest fires

MIE 243 – Rescue Rover Design Project **Sep. 2018 – Dec. 2018**

- Designed rescue rover to retrieve fuel pencil from contaminated nuclear power plant
- Involved research on rovers, solar panels, wheels, and motors
- The rover was powered by solar panels, and included an arm with a gripping mechanism for the fuel pencil

Student 42

- The rover could move in any direction on a system of mecanum wheels
- A fully functional model of the design was created using SolidWorks
- A final report details all of the mechanisms of the design and summarizes the entire process and the research required to complete the project

EXTRACURRICULAR EXPERIENCE

FLL, Sumo, Ball Collector Robotics Team – Amman, Jordan **Aug. 2014 – May 2017**

- Member of the FLL Robotics team for one year, captain of the Sumo Robotics team for two years, member of the Ball Collector team for one year, and then captain for one year
- Our team won first and third place in two regional competitions, and several other awards in national competitions
- Worked with Arduino, Tetrix, Vex, and EV3

Eco Park – Friends of the Earth Middle East **March 2015- May 2017**

- Volunteered with an environmental organization, our projects include building a playground for local children using recycled materials, and building a bicycle track.

GLOBE Program **May 2016- May 2017**

- Collected data about the atmosphere, biosphere, hydrosphere, and pedosphere of our surrounding environment, and sharing this data with scientists at NASA.
- Presented our work to the former Administrator of NASA sir Charles Bolden.
- Hosted a regional GLOBE conference, and translated presentations from Arabic to English in to an international judge.

Student 43

Education

Bachelor of Applied Science, Mechanical Engineering - University of Toronto — Sep 2017- Present

Technical Skills

- C, Python, MATLAB, CATIA, SolidWorks
- Proficiency in MS Offices suite, Adobe InDesign

Experience

Instructor - High School Saturday Program at UofT Engineering Outreach Office — Dec 2018-Present

- Developed and co-taught Cybersecurity course to 25 high school students
- Led activities related to cybersecurity fundamentals of coding, algorithms and cryptography.

Academic Counsellor – Da Vinci Engineering Enrichment Program (DEEP) at UofT — July 2018

- Counselled for Space Transportation course (Led activities such as prototyping of a model rocket, descent parachutes by applying knowledge of nozzle fundamentals, chemical/liquid engines, electrical and nuclear propulsion)
- Taught 25 grade 9 students MATLAB and concepts in electromagnetism
- Served as a panelist for Women in STEM discussion panel

Community Projects Team Member - Engineers Without Borders, U of T Chapter — Sep 2017-May 2018

- Collaborated with a team of 5 to improve the online database of Big Brothers Big Sisters using Microsoft Dynamics and ClickDimensions
- Redesigned the application forms to enable and improve online access

Team Leader- Engineering Strategies and Practices Course — Sep 2017- Apr 2018

- Worked with the sustainability department of KingSett Capital to propose solutions for reducing energy consumption at their properties in Toronto
- Led a team of 6 to research, brainstorm, and present possible measures that would enable reduction in the costs incurred due to peak demand charges on electricity usage

Youth Coordinator - Women's Association Ahmadiyya Muslim Jamat (AMJ) — 2013-Present

- Mentored, organized and developed syllabus for weekly religious knowledge classes
- Consulted with other coordinators and reported to the head of youth organization of AMJ every month
- Organized quarterly workshops for 5 sub-regions with 90 mentees

Extra Curricular Involvement **Student 43**

- **President - Ahmadiyya Muslim Student's Association (AMSA) at UofT** — June 2018-Present
  - Held monthly member learning sessions
  - Organized quarterly information tables on campus to promote interfaith conversation
- **VP Promotions - CUBE (Club for Undergraduate Biomedical Engineering)** — Sep 2018-Present
  - Created promotional content (social media posts and print media) for club events

[redacted]

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Resume

EDUCATION

University of Toronto:

Engineering Science	*2015 - 2016*
Mechanical Engineering	*2016 - present day*
Rotman Business Minor	*2017 - 2018*

PRACTICAL EXPERIENCE

Bosch, Germany - **Engineering Intern** *May - Sep 2018*
Developed international database for streamlined best practice and error diagnosis using a self-created online platform

Magna International - Engineering Research Intern *May - Sep 2016 & May - Dec 2017*
Organized lab activities consisting of developing and executing testing, maintaining safety standards and designing prototypes. Financial planning included coordinating projects with third parties, researching and acquiring equipment and developing budget strategies.

Global Ideas Institute - Representative *2014 - 2015*
Selected to work with U of T's Global Ideas Institute to create strategy to improve financial inclusion in India with the help of 'The Munk School of Global Affairs'

Public Speaking - Team Captain *2014 - 2015*
Achieved notable accomplishments as Pickering College's Debate Team Captain including a first-place finish in St. Clement's Fulford Tournament and a filmed exhibition debate for the Fulford League website

ACHIEVEMENTS

Zetzl Science Scholarship Recipient
Awarded each year at Pickering College High School to the student with the highest average in the science courses

Valedictorian Candidate
Voted as top candidate for graduating Valedictorian

University of Toronto Scholarship
Granted the Presidents Entrance Scholarship at the University of Toronto

COMMUNITY INVOLVEMENT

Human Powered Vehicle Design
U of T design team engaged in creating lightweight high-speed vehicles using only human power

Intramurals
Active member of U of T Engineering faculty's 'SKULE' intramural volleyball team

Philanthropy
Financial organizer for Battle of the Bands fundraiser for SickKids Toronto

RELEVANT SKILLS

Languages
Fully proficient in German and English communication (native) and conversational French

Machining Course Completion
Completed George Brown/U of T's Basic Machining course focusing on the use of a lathe, mill, drill press and machine shop safety

Programming
Experienced with computer science topics including algorithm development and big-data management
Proficient in the use of C, MATLAB, Solidworks, DraftSight, ANSYS, Catia, Turing, Visual Basic, Microsoft Office, HTML, Java and Python

Student 45

[redacted]

Summary:

- 2nd year mechanical engineering student
- Motivated, team oriented and eager to learn

Education:

Steveston-London Secondary, Richmond, BC

- Achieved Dogwood Diploma

University of Toronto Faculty of Engineering

- Completed First Year, TrackOne Engineering
- Mechanical Engineering, Second Year

Work/Team Experiences:

University of Toronto Aerospace Team (Rocketry Division) September 2017 - present
Position: Recovery Team Member
Major Responsibilities:

- Led in design of CO2 actuator for the recovery system, including preliminary design, AutoCAD and SolidWork Models used to create drafts for manufacturing.
- Aided in research and development of a superior recovery system for the Defiance rocket.
- Currently aiding in machining of parts required for upcoming rocket

Sino-Canadian English Leadership Camp (Guangzhou) June-July, 2016
Position: Sports Workshop Leader
Major Responsibilities:

- Operated in foreign environment, teaching children English
- Educated and supervised children of various ages on technical aspects of multiple sports

Community Connections Summer Camp Administration/Leader May – August, 2018
Position: Camp Leader/Administrator
Major Responsibilities:

- Led in activities for children from low-income families
- Planned suitable and safe activities for 4 weeks
- Practiced conflict resolution techniques
- Adapted to unforeseen circumstances in chaotic environments

Additional Skills:

- Completed George Brown College Machining Course – proficient with use of lathes, mills and lathes
- Microsoft Office and Excel
- Fluent in AutoCAD and Autodesk MAYA
- Intermediate knowledge of Solidworks and Autodesk Inventor
- Intermediate knowledge of C programming
- In process of learning Python programming

[redacted]
Student 46
[redacted]

Skills

I welcome new experiences and I'm always willing to learn or teach new concepts. Currently I have a certification from SolidWorks as well as a year experience in python, java, MATLAB, Minitab and more experience in applying the technical aspects of engineering. (VEEP and Formula FSAE racing team)

Experience

August 2015 - September 2015
Kuwait Hospital, Sharjah(UAE) - *Intern*

- One month internship in the Biomedical Engineering Department.
- Observed and carried out several tasks in order to be involved.
- Learned about regulation, rules and how certain standards must be met.
- Witnessed the importance of information exchange among colleagues.

October 2016 - April 2017
International School of Choueifat, Sharjah(UAE) - *Assistant to Teacher*

- Helped other students and led a learning environment.
- Slowly developed a team and observed several students improve.

Education

September 2008 - May 2017
International School of Choueifat, Sharjah(UAE) - *High School Diploma with Ap®*

Graduated with a 96% final average. The journey leading up to this taught me several leadership skills and helped develop my outgoing and curious personality.

September 2017 - Current
University of Toronto, Toronto(Canada) - *Undergraduate Mechanical Engineering Degree*

Involved in several teams which require high technical understanding. Volunteered to build an application for android to help better mental health. These developed my understanding of the importance of team dynamic. In addition to being part of Formula SAE Racing team which greatly helped in my professional development (especially after helping with our annual Shootout races). I Finished first year with a 3.83 CGPA. During second year, my team built and designed a rover which resulted in an outstanding mark for that project. My first year projects with different clients helped me greatly in transferring these skills to my new team.

Awards

AP® Scholar with Distinction (For outstanding grades)
VEEP admission
Dean Honor list for 3 semesters

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[redacted]

ABOUT

Soft Skills: Leadership, Advanced Verbal Communication, Advanced Written Communication, Advanced Presentation Skills, Teamwork, Organization, Time Management
Hard Skills: Microsoft Word, Microsoft Excel, Microsoft Powerpoint, Microsoft Visio, Microsoft Project, Lucidchart, Python, Solidworks, Minitab, MATLAB, CES EduPack
Education:

- **University of Toronto:** Bachelor of Mechanical Engineering, Anticipated Graduation 2021+PEY
- **Donald A Wilson S.S**: High School Diploma, 2017

Awards:

- **Donald A Wilson S.S –** Calculus and Vectors, History

ENGINEERING EXPERIENCE

February 2018 - Present - Interplanetary Space Exploration Team

- Currently, the General Director of an engineering space exploration design team I co-founded, which has allowed me to greatly advance my leadership, teamwork, and communication skills through the management of the team members
- Currently participating in a competition hosted by UBC to design and prototype an airlock for Mars colonization
- Responsible for establishing the strategic direction of the design process to ensure the team is meeting its short and long-term goals
- Currently designing a functioning depressurization system to ensure the safety of astronauts on Mars when entering and exiting the airlock

January 2019 - Present - University of Toronto Design League

- Currently, the Co-President of a design competition team I co-founded, which has given me ample opportunity to improve my leadership, teamwork, and communication skills through the management of all team members
- Currently organizing a competition to give participants the opportunity to both design a solution to a given problem, and then use CAD and 3D printing tools to physically model their design
- Responsible for establishing the direction of the team to ensure that it is meeting its short and long-term goals

May - August 2018 - Engineering Intern at Esmond Manufacturing, a division of Teknion Ltd.

- Facilitated the change in ERP software from Sage ACCPAC to Baan ERP
- Created bills of materials for new products
- Verified correctness of bills of materials for existing products through inspection of the adjacent production plant, where I recreated the product itself
- Created and assisted engineers in the creation of abstract flowcharts to represent the raw material composition and product options for new and existing items, which was done using Microsoft Visio and Lucidchart software

September - December 2018 - Rescue Rover Design Project

- Researched and developed a design for a rover that is capable of traversing 1 km in under 10 hours using only solar power, and designed the mechanism by which the rover could pick up and hold the fuel pencil
- Designed the gearbox that the rover used for movement across various terrain
- Utilized and improved written communications skills via the creation and proofreading of formal documents detailing the design specifications
- Utilized and improved CAD skills via the creation of the gripper mechanism for the rover on Solidworks

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January - April 2018 - Kingsett Design Project

- Utilized and improved leadership, teamwork and interpersonal skills to optimize the efficiency and performance of the team
- Conducted various analyses of client's needs to determine the most appropriate solution approach
- Utilized several ideation methods to develop solutions for a reduction in annual energy consumption
- Researched and developed energy-saving systems that would reduce the energy consumption of the building by over 4000 MWh, and a LEED score increase of over 10 points
- Employed oral and written communication and presentations skills to effectively showcase the benefits of the design to the client

January 2018 - UTEK Competition

- Utilized teamwork and interpersonal skills to optimize the performance of the team in a time constrained environment
- Developed solutions to optimize energy losses of OPG utilizing current technologies
- Employed written communication skills to formulate a document detailing the design specifications

September - December 2017 - Early Wildfire Detection System

- Utilized and improved teamwork and interpersonal skills to optimize the efficiency of the team
- Researched and developed sensory systems employing current technologies
- Utilized and improved written communications skills via the creation and proofreading of formal documents detailing the design specifications

EXTRACURRICULAR EXPERIENCE

September 2016–June 2017 Student Volunteer at Tax & Accounting Firm
Responsible for organizational and reception duties with regards to interaction with the client, and the filing of paperwork.

March 2015-June 2016 - Lakeridge Health Hospital
Assisting Recreation Therapy staff in the delivery of therapeutic and diverse recreation programs to the patients for the purpose of improving functional ability, leisure independence, and quality of life.

June -September 2014 - Contractor for Paper Route Delivery
Responsible for delivering and selling newspapers to subscribers along prescribed routes, collecting money periodically, and keeping records of accounts. I was also in charge of contacting prospective subscribers along the route to enroll new customers.

September 2014 - January 2015 Human Values program
Responsible for assisting teachers trying to educate children about human values to give them a basic understanding of the world we live in

May 2014 - Relay for Life program
Responsible for supervising programs for the Relay for Life Cancer society raising funds and awareness

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MECHANICAL ENGINEERING STUDENT

[redacted] [redacted] [redacted]

EDUCATION

Bachelor of Applied Science and Engineering • University of Toronto September 2017 – Present

- CGPA: 3.94 /4.0 | Expected Graduation: April 2021
- Dean's Honours List | Class of 3T7 Scholarship | John Hirschorn Memorial Scholarship | Mechanical and Industrial Engineering Admission Scholarship | Albert & Teresa Li Engineering Award

SKILLS

Interpersonal Skills

- Planning | Organization | Leadership | Teamwork | Communication | Diligence |Time Management

Software Knowledge

- SolidWorks | AutoCAD | ANSYS Mechanical |Python | MATLAB | Minitab | MS Projects | MS Outlook |MS Word | MS PowerPoint | MS Excel | MS Publisher

CERTIFICATIONS

Certified SolidWorks Associate - Dassault Systemes
Diploma in Leadership and Management - Shaw Academy
Basic Machining Course - George Brown College

EXPERIENCE

Co-Founder & Chief Technical Supervisor • Interplanetary Space Exploration Team February 2018 – Present

- Recruited 34 members for a space design team participating in a Martian airlock design competition
- Created, planned and implemented the strategic direction of the technical sub-teams
- Designed sensing, dust removal and radiation protection systems
- Performed calculations pertaining to the thermodynamics of the air and water systems inside the airlock

Project Manager • Dog Car Restraint Project January 2018 – April 2018

- Designed a car restraint for dogs for a real client with a focus on safety and user convenience
- Prepared a three-month-long GANTT chart and set timelines to track progress of the project
- Analyzed current dog harnesses and car restraints and determined their points of improvement
- Created SolidWorks models of the final design and conducted stress analysis simulations on it

Team Member • Nuclear Rover Project September 2018 – December 2018

- Designed a nuclear rescue rover to retrieve a fuel pencil from an accident site in less than 12 hours
- Created, modelled, and assembled the chassis as well as drive and energy systems
- Performed calculations for motion and climbing systems as well as electrical components
- Developed mechanical problem-solving skills by enabling the rover to traverse an incline of 42^{o}

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Team Member • McMaster Designathon January 2019

- Designed the interior of an autonomous Uber vehicle with a focus on user interface
- Created SolidWorks CAD models of the design and built it by 3D-printing
- Analysed possible locations of airbags and seatbelts to ensure optimum passenger safety
- Completed the research, design and physical models in only 24 hours

COMMUNITY INVOLVEMENT

External Communications Executive • CITY Youth Group October 2015 – June 2016

- Planned events for the local community at the community center with a focus on engaging youth
- Increased turn-out for the Chill Room where youth played videogames, board games as well as table tennis
- Contacted Old Navy and received their sponsorship for our Amazing Race event as part of Rebel Week
- Read stories for children and decorated the community center for Halloween
- Advertised the group and its events at my high school

Executive & Sub-team Lead • Muslim Student Association September 2016 – June 2017

- Enhanced the scope of the high-school club by organizing community-wide events
- Planned an end-of-year formal dinner for students and their families
- Organized a basketball tournament to promote sports and active lifestyles
- Held a summer event at a local park for students and their families to connect with nature and engage in fun activities such as soccer and cricket

Ambassador • Minga Club September 2015 – June 2016

- Organized events that allowed students to be aware of local and global issues and help address them
- Held a Halloween food drive and encouraged students to collect dry-food cans instead of candy
- Prepared sticky notes with messages of positivity and posted them on all student lockers as a surprise to students
- Participated in the vow of silence to show support to those who do not have freedom of speech

General Member • Royal Treatment Club September 2016 – June 2017

- Represented my high-school during community events such as parent-teacher night and grade 8 parents' nights
- Interacted with school visitors and assisted them by addressing their questions and concerns
- Ensured that future students felt welcomed by clarifying any misunderstandings and providing advice

Volunteer • International Languages Program September 2015 – June 2016

- Assisted a kindergarten teacher in supervising students and helping them
- Photocopied textbooks and forms and handed them out to students
- Prepared artefacts for the students to use during the Chinese New Year concert
- Organized traffic outside the school in the morning to ensure safety of children

Volunteer • Erin Meadows Library May – June 2015

- Organized books and CDs in their respective shelves and collected misplaced items
- Helped library visitors and addressed their questions
- Sorted and ordered books for a book sale

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[redacted]

TECHNICAL SKILLS

- **Design Tools:** Solidworks - CSWA Certified, CATIA
- **Analysis:** ANSYS, MATLAB, Minitab, Pointwise
- **Programming:** Python, C
- Microsoft Office Proficient

RELEVANT EXPERIENCES

Mechanical Engineering Design I Project Sep – Dec 2018
Team Member University of Toronto

- Successfully designed a solar powered, maneuvering land rover with an arm mechanism with 5 degrees of freedom
- Analyzed all areas of the rover such as drive type, gearbox, motor, lifting and grabbing arm mechanisms to meet the objectives and constraints of the project
- Presented the final design visually through CAD in Solidworks and a detailed written report

Blue Sky Solar Racing Club Feb 2018 - Present
Team Member University of Toronto

- Collaborated with other team members to successfully run aerodynamic simulations using ANSYS Fluent and DOE to analyze different aero body designs
- Created array layouts for various aero body designs using ANSYS Spaceclaim which one of them is to be the final array configuration of the solar car
- Designed and created 3D model of plugs for different parts of the car in CATIA which are to be used to make fiberglass molds in the construction and fabrication process of the solar car
- Assisted with body work such as cutting, gluing, and sanding MDF wood layups of the solar car

Eng. Strategies & Practices Project Jan-April 2018
Team Leader University of Toronto

- Led a client proposal project with a team of 5 students to propose a solution to keeping trees upright due to soil erosion in Toronto ravines
- Effectively allocated work within the group using a Gantt Chart and maintained effective communication within the group as well as the clients to ensure work was in accordance with the project objectives
- Analyzed the problem with calculations and an ANSYS simulation of a simply modelled cantilever beam

WORK EXPERIENCE

Craft Chippery July - August 2018
Crew Member Waterloo, ON

- Collaborated with other crew members to prepare food and provide reliable customer service
- Always arrived on time with the required uniform to prepare the shop for open for business

EDUCATION

Bachelor of Applied Science and Engineering 2017 - 2021
Mechanical Engineering, 2nd Year University of Toronto, St. George Campus

- Relevant Courses: *Mechanical Engineering Design*, *Probability & Statistics*, *Materials Science, Finance & Accounting*, Thermodynamics, Manufacturing Engineering
- Received Dean's Merit Scholarship

George Brown Machining Course Jan 2019

[redacted]

[redacted]

Education

Since 2017: Mechanical Engineering at *University of Toronto (2nd year); SGPA: 3.74*
2017: Machine learning course offered by *Stanford University* on Coursera
Skills: *Solidworks*, *Python*, *Matlab*, Microsoft Word/Excel/PowerPoint, Minitab, CES Selector, FrontPage and Photoshop.

Academic Honors:

2018: Dean's Honours List
2017: Dean's Honours List
2017: Certificate of Excellence - Awarded Trophy for 'IBDP School Topper for the year (2017)'
2015: Academician of the year - Awarded Trophy for 'IGCSE School Topper for the year (2015)'
2015: International Award of Education and Distinction

Experiences

2018**:** ***Summer Internship*** **(8 Week) in the field of Quantitative Investment and Artificial Intelligence at Alpha Alternatives**. During my tenure, I worked on developing various models and implemented research papers on technical analysis, neural networks, image recognition, data analytics, machine learning, and statistical pattern recognition. These models were coded on Matlab and were used for predicting the movement of stock prices and algorithmic trading.

2018: **Used Solidworks to design and CAD a rover** that can retrieve an exposed nuclear pencil from a torn calandria vessel.

2018: **MIE243 – Mechanical Engineering Design Lab Dissections**. The labs for this course covered three primary topics:

- Engineering communication using drawings and portfolio
- Engineering graphics and hand drafting
- Solid modelling, assemblies, and drawing using Solidworks CAD software.

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2018: **Cofounder of the club** - The Reality of Sci-Fi at University of Toronto. The members of this club analyze episodes of famous science fiction movies and focus on what truly is science fiction and what can be explained by science. In the future, members will also make models of some famous sci-fi landmarks such as “Starship Enterprise” and “Death Star”.

2018: **Developed an Arduino Energy Monitor for Ecosystem Inc**. The design was composed of an Arduino UNO, an Ethernet shield and a current transformer. The device was able to measure campus building energy use for energy baseline at a lower cost (*CAD 150*) than existing method (*CAD 3000*).

2017: **Completed the following certified courses at ARK robotics**: Construction of Quadcopter, Integrating Brain wave technology and Robotics, controlling robot using Android enabled Smartphone and Internet of Things.

2017: **Member of Robotics on Space exploration at University of Toronto.** I was responsible for strengthening of the Mars Rover’s body by using Carbon Fiber Reinforced Polymer.

2017: **Designed a drone based solution to identify wildfires earlier,** ensuring fire services in Canada have ample time to make appropriate decisions.

2017: **Built and successfully flew 9 Radio-Controlled aircrafts**. The following series of steps were involved in order to build these aircrafts: Researching, Planning, Cutting, Drilling, Sculpting, Sanding, Gluing, Painting and Detailing

2017: ***Summer Internship*** **(8 weeks) at Social Media Factory (SMF) as a Social Media Marketing Specialist**. I was responsible for the following things: handling Social Media pages, making calls for sponsorship and editing pages and posters.

2016: **Participated in EUMIND** (Europe Meets India). We conducted research with help of Project Scenarios and published articles on common platform and communicated with European students through Video conferencing.

2015: **Won the ‘Special Mention’ award** (Bronze medal) at India’s biggest MUN (IIMUN). I was a part of Joint Committee Crisis and a delegate representing Bulgaria.

2014: **Became an active member of Lions Club**. As a part of their activities, I participated in clean up drives, fund raising and spent time with day-care patients suffering from leprosy.

2012: **Student Exchange Program** for 24 days at Scheffel Gymnasium, Bad Sackingen, Germany.

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EDUCATION

Bachelor of Applied Science, 3rd Year **2016 - Present**
University of Toronto, Department of Mechanical Engineering
Mechatronics and Manufacturing Streams - GPA: 3.40
Engineering Business and Advanced Manufacturing Minors
Relevant Courses:

- Engineering Strategies and Practices
- Engineering Analysis
- Engineering Probability and Statistics
- Mechanical Engineering Design
- Quality Control (In progress)
- Fundamentals of Computer Science
- Markets and Competitive Strategy
- Manufacturing Engineering
- Engineering Economics and Accounting
- Electronics for Mechatronics (In progress)

Basic Machining Course **2017**
George Brown College, Toronto

Engineering International Foundation Program **2015 - 2016**
University of Toronto
Faculty of Applied Science and New College

- Intensive English-language communications course targeted for Science and Engineering

TECHNICAL SKILLS

High Exposure:

- Microsoft Suite: Microsoft Word, Excel, PowerPoint, Project, Outlook
- SolidWorks: Mechanical engineering design, technical drawing and presentations

Moderate Exposure:

- Project Management and Planning: Leader role in various university engineering projects
- MATLAB: Mechanical engineering design and mathematical analysis
- Python: Variables, functions, data structures, loops, recursion, object-oriented programming
- Working knowledge of mechanical engineering laboratory practices and report writing

Basic Exposure:

- AutoCAD: Civil engineering structures and landscape blueprints
- Sketch-Up: Depiction of products being created for engineering design projects
- Mini-Tab: Data analysis, probability distributions, random sampling, estimation theory, quality control
- Pspice: Basic analysis of electronic circuits
- ANSYS: Analysis of bodies subjected to pressure and forces causing shear and normal stresses

RELEVANT ENGINEERING PROJECTS

Team Member, Kinematics and Dynamics of Machines, University of Toronto **2018**

- Collaborated to design and analyze the mechanical motion of a vault door
- Designed and modelled in SolidWorks the mechanism used as the final design

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RELEVANT ENGINEERING PROJECTS - CONTINUED

Team Leader, Markets and Competitive Strategy, University of Toronto **2018**
- ❏ Created business and produced a marketing plan developing competitive strategies and market tactics
- ❏ Analyzed internal and external market opportunities and threats to ensure marketing advantage

Team Member, Fundamentals of Accounting and Finance, University of Toronto **2017**
- ❏ Evaluated financial statements of a Canadian company to assess the company's earnings and its quality
- ❏ Prepared financial projections, company valuation and devised risks worth controlling

Team Member, Mechanical Engineering Design, University of Toronto **2017**
- ❏ Designed an entry-level 3D printer for fast prototyping, ensuring high speed and moderate precision
- ❏ Researched motion requirements and mechanisms to apply them to an original SolidWorks model

Team Leader, Engineering Strategies and Practices II, University of Toronto **2016**
- ❏ Hired by a real customer to address the replacement analysis of a residential laundry facility
- ❏ Performed a cost analysis based on usage, human factors, safety and efficiency

Team Leader, Engineering Strategies and Practice I, University of Toronto
2015
- ❏ Conceived, evaluated and iterated the design process of food packaging according to client needs
- ❏ Learned to manage and lead a group of students working towards a set of time-sensitive milestones

Designer, Freelancer Design Projects, Ecuador **2014**
- ❏ Illustrated furniture sets through sketchup as a personal project under the supervision of an engineer
- ❏ Researched materials, costs and safety concerns to implement the project

WORK AND VOLUNTEERING EXPERIENCE

Entrepreneurship, "C&B" Computer Centre, Ecuador **2012-2013**
- ❏ Founded, managed and maintained a computer centre utilizing acquired technical knowledge
- ❏ Reduced costs for low-resource students who were the main customer base
- ❏ Expanded business to include a stationery department with the same targeted customer base

Computer Technician (Internship), "Nueve de Mayo" Technical Educative Unit, Ecuador **2012**
- ❏ Worked as a computer technician to maintain various primary schools' computer centres
- ❏ Taught to primary and secondary schools students the basics of computer technologies

ACHIEVEMENTS

"High-Performance Group (GAR)" Scholarship, Ecuador **2014-2021**
- ❏ Achieved by 0.1% of students in the Ecuadorian Higher Education National Examinations

Dean's Honours List, University of Toronto
2017-2018
- ❏ Recognition of exceptional academic achievement