PRABHDEEP SONI

1B Mechatronics Engineering | 647-606-9376 | pssoni@uwaterloo.ca

SUMMARY OF QUALIFICATIONS

- Self-taught **Java, JavaScript**, and **SQL** through online courses
- Proficient in **C** and **C++** through university courses
- Experienced with **Windows, Mac OS X**, and **Linux**
- Proficient with **SolidWorks**, **Inventor**, and **AutoCAD**; created 2D/3D models for robotic projects
- Familiar with **3D printer**, **laser cutter**, **oscilloscope**, **mill**, **lathe**, **sensors,** and **circuits**
- Exceptional organizational skills and attention to detail; organized fundraisers with totals over $1000
- Excellent verbal and communication skills; presented and composed reports for research studies
- Ability to work independently and in teams; demonstrated through leading robot design projects

RELEVANT PROJECTS

Automated Sudoku Solving Robot, *University of Waterloo* Oct. 2017 – Dec. 2017

- Created a robot to solve a colour-coded Sudoku puzzle within two minutes
- Constructed robot with custom 3D printed parts designed in **SolidWorks** and Lego parts
- Programmed robot for autonomy using **C,** colour sensors, touch sensors, and ultrasonic sensors
- Lead the team of four as project manager to ensure project was successful and on time

Robotic Arm Design, *University of Waterloo* Sept. 2017

- Produced designs for a teleoperated robotic arm using **AutoCAD** to place prosthetic bones
- Utilized **C++** to determine dimensions of arm components that would maximize reach of robot
- Built robot with Tetrix Robotics parts having two degrees of freedom, rotation along base for horizontal positioning and hinge motion for vertical positioning, resulting in successful demonstration

VEX Starstruck Robotics Design Team, *Newton's Grove Private School* Nov. 2016 – Mar. 2017

- Designed robot to efficiently lift foam stars over a fence using a 3D model on **Inventor**
- Constructed robot using VEX EDR parts, including quadrature encoders and ultrasonic sensors
- Programmed robot using **C** for autonomous operation and teleoperated control

Solar Panel Research Study, *Newton's Grove Private School* Jan. 2017 – Mar. 2017

- Conducted study on effects of distance from light source and angle to light source on solar panels
- Documented and presented findings to a panel of three PhD teachers
- Awarded 1st place medal for top research project

RELATED EXPERIENCES

Inventory/IT Division, *North American Ltd.* Jan. 2017 – Aug. 2017

- Operated a Microsoft Access based database program to log customer orders
- Debugged and repaired multiple company workstations onsite and remotely
- Planned and set up an exhibition booth for the Toronto Gift Fair

President of W.I.N.G.S. (charitable organization), *Newton's Grove Private School* Sept. 2016 – May 2017

- Organized school-wide fundraisers with organization such as the Police Foundations Department Training College (donated 500 lb of food and toys in Dec. 2016), Canadian International Medical Relief Organization (raised $1000 in Apr. 2017), and Princess Margaret Hospital (raised $2000 in Oct. 2016)
- Communicated with administration of school and members of council to ensure cohesivity

Technology Club, *Newton's Grove Private School* Sept. 2016 – May 2017

- Transformed an old PS3 into a media centre by installing **Ubuntu** and expanding its storage and memory
- Built multiple computer systems and installed **Windows**, **Mac OS X,** or **Linux**

EDUCATION

University of Waterloo, *Candidate for Bachelor of Applied Science, Mechatronics Engineering* Sept. 2017 - Present

- Relevant Courses: Digital Computation (**C++** and **C**), Data Structures and Algorithms (**C++**), Circuits
- Achieved **Excellent** academic standing in 1A (80+ average)
- Awarded President Scholarship of Distinction (95+ admission average)

INTERESTS:

Basketball

- Played U20 basketball

Music

- Honour Band Acceptee

Tae Kwon Do

- Black belt