

# SAMUEL SUN

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## SKILLS & EXPERTISE

Design	SolidWorks, Fusion360, AutoCAD, Inventor, Eagle, Adobe Creative Suite
Production	CAM, CNC Machining, Injection Molding, 3D Printing, Sheet Metal
Hardware	Microcontrollers, Electronics & Circuit Prototyping, Digital Signal Processing
Programming	Python, C, C++, Java, HTML5, CSS3, JavaScript, Visual Studio, Git
Communication	English, French, Microsoft Office Suite, Agile & Scrum Workflows

## EXPERIENCE & PROJECTS

### PRECISION RESOURCE INC. | Cambridge, ON

#### Fineblank Tooling Engineering Support

January 2020 – April 2020

- Generated high-volume production processes for metal fineblanking and injection overmolding
- Used **SolidWorks** and **AutoCAD** to model dies and fineblanked parts at various stages of production
- Drew and interpreted part drawings with an emphasis on **GD&T** and **surface finishes**, and developed processes that reduced cutoff waste and produced dimensional accuracies as small as 20 µm
- Independently developed simulations to model **metal flow** and **plastic deformation** characteristics
- Maintained communication with team members to manage concurrent projects and provide **RFQs**

### FRC 4308 ABSOLUTE ROBOTICS | Mississauga, ON

#### Engineering Lead

September 2017 – August 2019

- Led the engineering of FIRST Robotics Competition (FRC) robots within **6 week** build seasons
- Used **SolidWorks** and **AutoCAD** to rapidly design and iterate on 2D & 3D robot parts and assemblies
- Drew technical drawings in accordance to **GD&T** standards, and interpreted them to machine parts
- Continuous optimization of designs using **prototypes**, test jigs, and finite element analysis simulations

#### Vice President

September 2018 – August 2019

- Managed resources and deadlines with **Slack** meetings, **GrabCAD** repositories, **Excel** spreadsheets
- Worked with suppliers and sponsors to **source parts**, receive **quotes** and manage tight **budgets**
- Raised over **\$25,000** in sponsorships through partnerships with industry businesses and professionals

### FRC 1325 INVERSE PARADOX | Mississauga, ON

#### Electrical Lead

September 2015 – June 2017

- Led team members in the design and testing of electrical, pneumatic, and control systems
- Integrated components like encoders, motor controllers, solenoids, and vision systems, all connected with **CAN** and **PWM** busses and wirelessly controlled using **Java** in **Eclipse** and **LabVIEW**
- Proficiency in using tools like soldering irons and oscilloscopes to develop robot control circuits

## AWARDS & CERTIFICATIONS

2020	Design	Certified SolidWorks Professional – Mechanical Design	Cambridge, ON
2018	Winner	FIRST Robotics STEMly Cup Championships	Hamilton, ON
2018	Finalist	FIRST Robotics World Championships – Daly Division	Detroit, MI
2018	Lifeguarding	National Lifeguard, Standard First Aid, CPR C Certifications	Ontario, CA
2017	Winner	EC Hacks Hackathon – Best IoT Hack	Peterborough, ON

## EDUCATION

### University of Waterloo | Waterloo, ON

#### Honors Mechatronics Engineering

September 2019 – May 2024 (Expected)

Candidate for Bachelor of Applied Sciences in Honors Mechatronics Engineering