

Stephen Abraham

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TECHNICAL SKILLS

Languages C, C++, Java, Python, JavaScript, MATLAB/Octave, LabView, DASYLab, G-Code, MongoDB, Assembly

Manufacturing Mill, Lathe, Sheer, Bandsaw, CNC Mill, FDM 3D printers

Operating Systems Linux OS, Windows OS

Development Tools Git, SVN, Make files, Android Studio, Microsoft Office

CAD Tools AutoCAD, SolidWorks, Inventor, EagleCAD

CAM Tools Mastercam, BobCAD, HSMWorks, VCarve Pro, Cura, OpenSCAD, Slice3D

Knowledge Object-Oriented Programming, Unit Testing, Blueprint Reading, Composite Materials, Dynamic, Memory Management, Spiral and Waterfall Methodology

EDUCATION

Bachelor of Engineering, Engineering Systems & Computing (Co-op)

University of Guelph – Guelph, ON

Sept. 2017 - Present

- University of Guelph Entrance Scholarship
- CEPS Dean's List for cumulative GPA of 3.79
- Pursuing a specialization in mechatronics engineering
- Relevant Courses: Intermediate Programming and Data Structures

EXPERIENCE

Developer/Machinist Intern

Northeast Engineering & Development Ltd – Bolton, ON

June 2015 – Present

- Routinely operated and maintained a CNC Mill and created instructional manuals to train other employees in the safe use and maintenance of a CNC Mill
- Developed complex G-Code programs to produce precision aerospace-grade components used in aircraft modifications
- Responsible for the safe and tidy construction, testing, and wiring of fuel probe devices
- Independently developed a data acquisition system utilizing IOTech devices, a custom accelerometer PCB, pressure transducer, and a custom C/C++ program to monitor the fatigue on the exterior fuselage of an aircraft
- Lead the development of a compact data acquisition system using a custom C/C++ program, raspberry pi, type-k thermocouple, flow meter, and pressure transducer to monitor the circulation of aircraft fuel

Website Developer

Humberview Secondary School – Bolton, ON

June 2015 – June 2016

- Hand selected as 1 of 2 web developers to design, implement, and maintain a HTML/CSS/JavaScript website for the new near paperless Environmental Specialist High Skills Major program at the school
- Designed the front end of the website using modern design techniques and tools to create a visually appealing website
- Assisted in resolving any issues with the backend system by debugging the core modules of the backend of the website to ensure the website remained online at all times

EXTRACURRICULAR EXPERIENCES

University of Guelph Robotics Team (UGRT)

University of Guelph – Guelph, ON

Sept. 2017 – Present

- Lead the development of a tennis ball tracking system using the OpenCV libraries with python implemented using USB camera and a raspberry pi to process all the video for the mars rover competition
- Independently designed the core structure of the UGRT mars rover using principles of mechanical systems and SolidWorks for the mars rover competition
- Worked in a team of 5 executive members to handle the administrative and sensitive matters regarding the robotics team to ensure the team functioned smoothly

Interdisciplinary Space Project (ISP)

University of Guelph – Guelph, ON

Sept. 2017 – Present

- Independently overhauled the previous iteration of the team website using new and up-to-date web frameworks and web protocols to ensure the website remained online
- Worked in a team of 5 executive members to handle the administrative and sensitive matters regarding the ISP team to ensure the team grew and operated smoothly

FRC Team 4946, Alpha Dogs

Humberview Secondary School – Bolton, ON

Sept. 2014 – June 2016

- Independently designed and developed the team website using adobe muse for design and HTML/CSS/JavaScript for implementation that acted as the main source of information regarding the team
- Worked with a team of several students to seek out and form partnerships with several organizations in the community to secure ~\$100 000 worth of funding
- Collaborated with a team of ~25 students to design, manufacture, wire, and program 3 award winning robots to compete in the FIRST Robotics competitions robots
- Independently designed numerous creative and modern marketing and promotional material for competitions, outreach events, and sponsors to promote the team and its community partners