Stephen Abraham

19 Chapel St Bolton, ON L7E 1C2
(905) – 757 -6404 | sabrah03@uoguelph.ca
linkedin.com/in/saw | github.com/woudie
iamwoudie.com

TECHNICAL SKILLS

- **Languages**: C, C++, Java, Python, JavaScript, MATLAB/Octave, LabView, DASYLab, G-Code, MongoDB
- **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 September 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 for the production of 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 a turbine fuel

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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

EXTRA-CURRICULAR EXPERIENCES

University of Guelph Robotics Team (UGRT)

University of Guelph – Guelph, ON September 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 September 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 September 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