

Education

McGill University	(09/2013 -) BSc. joint major physics and computer science Transcript available upon request.
Winston Churchill High School	(09/2009 - 05/2013) Alberta High School Diploma International Baccalaureate Diploma

Practical experience

Research assistant	10/2017 - present <i>McGill University</i> Responsibilities include testing and debugging software that interfaces with lab instruments for Dr. Guillaume Gervais.
Communications subsystem specialist	01/2017 - present <i>McGill Space Systems Group (CSDC team)</i> Responsibilities include researching and implementing communications protocols, telemetry, and coordinating with the ground station for a 3U CubeSat with Kubos. Also a liaison between the communications and software subsystems.
Research assistant	05/2017 - 08/2017 <i>McGill University</i> Conducted research in the field of physics under the supervision of Dr. Brigitte Vachon, assisting in the Phase-II upgrade of the ATLAS detector at CERN. Responsibilities included implementing an optimal filtering algorithm on a field-programmable gate array, as well as some data analysis using the ROOT framework. Authored and presented a scientific poster with the design process, resource usage, and performance of the FPGA design. Gave a talk on this research at the Canadian Undergraduate Physics Conference in October 2017.

Practical experience (continued)

Course marker	09/2017 - 12/2017 <i>McGill University</i> Responsibilities included marking assignments for the course MATH 223, linear algebra.
Project manager, financial officer	09/2016 - 04/2017 <i>McGill Robotics (RoboHacks)</i> Responsibilities included coordinating and organizing the event, allocating tasks and resources, and ensuring proper communication among team members. Also responsible for keeping track of expenses incurred throughout the year, preparing projected and final budgets for the academic year, and handling reimbursements.
Director of technology	02/2016 - 03/2016 <i>McGill Robotics (RoboHacks)</i> Responsibilities included coordinating and organizing the event, as well as providing consultation related to hardware and electrical components.
Electrical specialist	11/2015 - 12/2016 <i>McGill Robotics (Mars Rover)</i> Responsibilities included contributing to printed circuit board design with the use of specialized software (DipTrace), as well as searching for suitable integrated circuits. Also responsible for soldering, testing, and running diagnostics on the circuit boards.
Research assistant	06/2014 - 08/2014 <i>University of Lethbridge</i> Conducted research in the field of biochemistry under the supervision of Dr. Steve Mosimann; approximately 35 hours/week. Responsibilities included recording data, protein purification, and running polyacrylamide gels.
University of Lethbridge high school team member	03/2012 - 05/2013 <i>International Genetically Engineered Machines</i> Assisted in brainstorming project ideas; researching prospective ideas; doing lab work (culturing cells, performing genetic mutations, and running agarose gels); interacting with the community; and working on the project wiki. Co-authored a scientific poster with results of the project.

Practical experience (continued)

Research assistant

06/2012 - 08/2012

University of Lethbridge

Conducted research in the field of biochemistry under the supervision of Dr. H.J. Wieden; approximately 35 hours/week. Responsibilities included protein purification and creating and presenting a scientific poster.

Languages

Computer languages and software (Gitlab: [shammamah](#))

- Arduino IDE
- Bash
- C, C++
- DipTrace
- HTML/CSS
- Java
- JavaScript
- \LaTeX
- LTSpice
- Mathematica
- MATLAB
- MIPS assembly
- OCaml
- Processing
- Python
- ROOT
- MS Office (Word, PowerPoint, Excel)
- VHDL

Spoken languages English, Bengali

Lab skills

- FPGA programming
- Printed circuit board design
- Oscilloscope operation
- Cell culturing
- Protein purification
- Gel electrophoresis

Publications

[Graphite Publications](#),
15/09/2016

[The Autonomy Olympics: RoboSub 2016](#)

[Graphite Publications](#),
14/07/2016

[Redefining Experiences: the Implications of Augmented Reality](#)

[Graphite Publications](#),
18/03/2016

[Hacking Away at Tech's Borders](#)

[Engadget Public Access](#),
09/09/2015

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