# R. Frederic Sauve-Hoover

+1 (780) 966-4114 | rsauveho@ualberta.ca | rsauvehoover | rsauvehoover

## Skills

**Frameworks and Tools** NodeJS, ReactJs, Redux, React Native, Django, Flask, LLVM, ANTLR, ElasticSearch

**Cloud** AWS, Google Cloud, CI/CD using AWS with CI tools (i.e. Travis CI)

**Languages** Python, Javascript, C, C++, Java, SQL, Lisp, MIPS Assembler, Some x86 and ARM assembler, Prolog

**Other** Considerable experience soldering and with general electronics assembly, using electronic test equipment, with embedded systems, and microcontroller programming

## Experience

### Consulting
*Edmonton, AB*

Developer — *Summer/Fall 2018*

- Continued work on CMPUT 401 project as a part-time consultant, same development responsibilities as during project.

### Intuit Canada
*Edmonton, AB*

Software Developer Co-op — *May 2017 - Dec 2017*

- Worked on team building data extraction software
- Mostly in python with a later web application involving ReactJS
- Gained experience in professional teams employing agile practices
- New project, and so I was involved in parts of the architecture design, as well as prototyping

### University of Alberta
*Edmonton, AB*

Undergraduate Teaching Assistant — *Winter 2017*

- Undergraduate Teaching assistant for CMPUT 275 - Intro to Tangible Computing II

### University of Alberta
*Edmonton, AB*

Undergraduate Summer Student — *Summer 2016*

- Undergraduate research assistant, working on embedded systems, with the goal of modernizing an existing course on computer architecture (CMPUT 229). Experience writing clear documentation and instructions for students and some experience with embedded operating systems (attempt at porting an msp430 operating system to ARM)

### Snow Valley Ski School
*Edmonton, AB*

Ski Instructor (CSIA Level 2) — *2013 - present*

- Part-time work as a ski intstructor
- Responsible for safety and management of often up to 10 children at a time
- Learned to effectively manage expectations of parents

## Projects

### CMPUT 415

*Fall 2018*

- Fully functional Compiler for Gazprea, a language formerly in development by IBM and now used specifically for this course
- Usually completed by 4 person groups, we completed the project with only 3 members
- Parsing frontend built using ANTLR, compilation backend built using LLVM
- Was imperative to design a project architecture that allowed us to implement all the necessary functionality in time
- Effective individual and team management (particularly time) was core to being able to complete the project
- One of the first groups in all of CMPUT 415 to fully implement the Gazprea language in one semester

### CMPUT 275

*Winter 2016*

- Knights tour solver and visualizer using Warnsdorf Heuristic
- 2 person project, I was responsible for the majority of the algorithm implementation and complexity analysis

## Education

**University of Alberta** *Edmonton, AB*

Honours Computing Science *2015-2020*

- **CMPUT 663 (499)** Machine Learning in Software Engineering — *Winter 2019*
- **CMPUT 474** The Nature of Computation — *Winter 2019*
- **CMPUT 404** Web Applications and Architecture — *Winter 2019*
- **INT D 350** Game Design Principles and Practice — *Winter 2019*
- **CMPUT 415** Compiler Design — *Fall 2018*
- **Math 322** Graph Theory — *Fall 2018*
- **PHIL 220** Symbolic Logic II — *Fall 2018*
- **WRS 102** Writing in the Disciplines — *Fall 2018*
- **CMPUT 496** Search, Knowledge and Simulations — *Winter 2018*
- **CMPUT 401** Software Process and Product Management — *Winter 2018*
- **CMPUT 325** Non-Procedural Programming Languages — *Winter 2018*
- **CMPUT 299** Computational Cryptography — *Winter 2018*
- **Co-op term** Intuit Canada — *May 2017-Dec 2017*
- **INT D 280** The Mountain World — *Winter 2017*
- **CMPUT 397** Foundations of Information Retrieval — *Winter 2017*
- **CMPUT 301** Intro to Software Engineering — *Winter 2017*
- **CMPUT 291** File and Database Management — *Winter 2017*
- **STAT 151** Intro to Applied Statistics — *Fall 2016*
- **CMPUT 379** Operating System Concepts — *Fall 2016*
- **CMPUT 272** Formal Systems and Logic — *Fall 2016*
- **CMPUT 250** Computers and Games — *Fall 2016*
- **PHIL 120** Symbolic Logic I — *Winter 2016*
- **MATH 227** Honours Linear Algebra II — *Winter 2016*
- **CMPUT 275** Intro to Tangible Computing II — *Winter 2016*
- **CMPUT 229** Computer Organization and Architecture I — *Winter 2016*
- **PHYS 144** Newtonian Mechanics and Relativity — *Fall 2015*
- **MATH 127** Honours Linear Algebra I — *Fall 2015*
- **MATH 117** Honours Calculus I — *Fall 2015*
- **CMPUT 274** Intro to Tangible Computing I — *Fall 2015*
- **STS 351** — *Fall 2014*

- **CMPUT 663 (499)** Machine Learning in Software Engineering — *Winter 2019*
- **CMPUT 301** Intro to Software Engineering — *Winter 2017*
- **CMPUT 401** Software Process and Product Management — *Winter 2018*
- **CMPUT 404** Web Applications and Architecture — *Winter 2019*
- **CMPUT 415** Compiler Design — *Fall 2018*
- **CMPUT 274** Intro to Tangible Computing I — *Fall 2015*
- **CMPUT 275** Intro to Tangible Computing II — *Winter 2016*
- **CMPUT 474** The Nature of Computation — *Winter 2019*
- **Math 322** Graph Theory — *Fall 2018*
- **CMPUT 272** Formal Systems and Logic — *Fall 2016*
- **PHIL 120** Symbolic Logic I — *Winter 2016*
- **PHIL 220** Symbolic Logic II — *Fall 2018*
- **CMPUT 496** Search, Knowledge and Simulations — *Winter 2018*
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- **CMPUT 299** Computational Cryptography — *Winter 2018*
- **CMPUT 291** File and Database Management — *Winter 2017*
- **CMPUT 397** Foundations of Information Retrieval — *Winter 2017*
- **CMPUT 379** Operating System Concepts — *Fall 2016*
- **CMPUT 229** Computer Organization and Architecture I — *Winter 2016*
- **MATH 117** Honours Calculus I — *Fall 2015*
- **MATH 127** Honours Linear Algebra I — *Fall 2015*

- **MATH 227** Honours Linear Algebra II — *Winter 2016*
- **STAT 151** Intro to Applied Statistics — *Fall 2016*
- **PHYS 144** Newtonian Mechanics and Relativity — *Fall 2015*
- **CMPUT 250** Computers and Games — *Fall 2016*
- **STS 351** Understanding Video Games — *Fall 2014*
- **INT D 350** Game Design Principles and Practice — *Winter 2019*
- **INT D 280** The Mountain World — *Winter 2017*
- **WRS 102** Writing in the Disciplines — *Fall 2018*
- **Co-op term** Intuit Canada — *May 2017-Dec 2017*