

R. Frederic Sauve-Hoover

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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, R, MIPS Assembler, Some x86 and ARM assembler, Prolog, Fluent in French
Other	Considerable experience with soldering and general electronics assembly, using electronic test equipment, embedded systems, and microcontroller programming

Experience

Consulting | **DEVELOPER** | *Summer/Fall 2018*

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

Intuit Canada | **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 | **UNDERGRADUATE TEACHING ASSISTANT** | *Winter 2017*

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

University of Alberta | **UNDERGRADUATE SUMMER STUDENT** | *Summer 2016*

- Undergraduate research assistant for Ioanis Nikolaidis, 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 | **SKI INSTRUCTOR (CSIA LEVEL 2)** | *2013 - present*

- Part-time work as a ski instructor
- Responsible for safety and management of often up to 10 children at a time
- Responsible for effectively managing the expectations of parents

Projects

Research Replication | **CMPUT 663 (499)** | *Winter 2019*

- Replication of: A look at the dynamics of the JavaScript package ecosystem by Erik Wittern, Philippe Suter and Shriram Rajagopalan at IBM T.J. Watson Research Center, 2016
- Interesting to look at how relevant conclusions drawn in the original paper are to the current JavaScript package ecosystem given the highly volatile nature of the JavaScript package lifecycle
- Currently in progress, will be a full length (10 page) paper

MSR Challenge Paper | **CMPUT 663 (499)** | *Winter 2019*

- A Mining Software Repositories 2019 conference challenge paper (4 page), on the topic of whether certain features are related to Stack-Overflow post quality
- Data collected from SOTorrent dataset, using Google BigQuery to query, and R for statistics

GitEmotional | **HACKED 2019** | *January 19-20 2019*

- A sentiment analysis tool for github commits
- Built in ReactJS with Redux for state, and chartjs for visualization
- I was responsible for most of the React development and program architecture design

Final Project | CMPUT 404 | Winter 2019

- Currently in progress
- A Diaspora like distributed social networking application
- Sharing posts and content accross servers (including other groups) using a common api
- Django application, hosting on Heroku with TravisCI for CI

Gazprea Compiler | 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 (7 week project duration)
- 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

MockCode | CMPUT 401 | Winter 2018

- Working with real clients (not just a class project)
- IOS and Android application simulating patient vital monitors, built in React Native with Redux for state, using Google nearby for communication between devices, and TravisCI for CI
- Experience with project management and group planning using agile practices
- Good experience with customer communication and expectation management
- Experience designing an architecture conducive to long-term development of the project
- Continued work as a consultant part-time over Summer and Fall 2018

ACM ICPC

- Competed in 2015 Rocky Mountain Regional contest (19th/52 teams)
- Competed in 2017 University of Alberta Programming Contest (2nd place)
- Involved in organizing the 2018 University of Alberta Programming Contest
- Have been consistently involved with the University of Alberta Problem Solving Club (UAPSC), and have been involved in multiple practice contests
- Improved skills at breaking down problems and applying known solutions to sub-problems, and provided a breadth of experience implementing algorithms

Education

University of Alberta | HONOURS COMPUTING SCIENCE | 2015-2020

- **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 495** Honours Seminar — *Fall 2015, Winter 2016, Winter 2017, Winter 2018, Fall 2018*
- **CMPUT 496** Search, Knowledge and Simulations — *Winter 2018*
- **CMPUT 325** Non-Procedural Programming Languages — *Winter 2018*
- **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*