Paul-Andre Henegar

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Highly motivated and skilled software engineer with a Master's in Computer Science from McGill and experience at Facebook. Proven ability to tackle complex problems in areas like distributed systems and computational biology. Passionate about building robust, efficient software and constantly learning new technologies. Fluent in English and French.

Work Experience

JNI Contract Work, [unannounced startup]   **Aug 2024 – Nov 2024**
Java, C/C++, Java Native Interface (JNI), GraalVM Native Image, Maven, IntelliJ IDEA

Software Engineer, Facebook   **2018 – 2020**
Express Backbone Team
- Worked on Facebook's inter-datacenter software-defined network
- Developed, tested, deployed, and troubleshooted C++ services, network daemons, and Python CLI tools
- Investigated and resolved packet-drops to improve network reliability

Teaching Assistant, McGill University   **2020 – 2022**
- Graded exams and assignments, assisted students with debugging code, and prepared and delivered lectures

Day Camp Monitor, Héritage Laurentien   **Summer 2022**
- Planned activities for and led groups of children between 6 and 10 years old

Projects

Unflip, an HTML5 JavaScript puzzle game, developed and launched (unflipgame.com)
Jan 2024 - Apr 2024

Game-Playing Bots: 2Sigma's Halite, Battlecode, Generals.io, Screeps.io
2017-2020

Go Compiler for a subset of Go using Rust and Flex+Bison
Winter 2018

Lisp interpreter in x86-64 assembly and Linux system calls
August 2017

Other Projects: Sudoku solver, Rubik's cube solver, Haskell interpreter, C-style language parser, Keley criterion calculator, Java bytecode optimizer

Competitive Programming

- Team ranked 3rd in ICPC Northeast North America Regional in 2017
- Ranked among top 1000 in Google Code Jam in 2018

Education

Master's Thesis in Computer Science, McGill University   **Sept 2020 - Oct 2023**
Thesis: RNA 3D Structure Prediction by Loop Motif Assembly
- Developed a structural biology tool and data pipelines in Python
- Analyzed and controlled data quality, investigating edge cases and incorrect assumptions

Courses: Natural Language Processing, Theory of Proof Systems, Mathematical Theory of Machine Learning, Matrix Computations

B.Sc. Joint Honours Mathematics and Computer Science, McGill University **2015-2018**
GPA: 3.93
Courses: Linear Algebra, Abstract Algebra, Advanced Calculus, Algorithm Design and Analysis, Probabilistic Analysis of Algorithms, Artificial Intelligence, Applied Machine Learning, Intro to Cryptography, Compilers, Programming Paradigms, Graph theory, Probability, Statistics

Skills

Programming: Python, Java, C/C++, JavaScript, HTML/CSS, Rust, Go, Bash, Haskell, Scheme, x86-64 ASM, OCaml, Matlab
Productivity Software: Google Suite, Microsoft Office, LaTeX (both self-hosted and Overleaf)
Other: Long-time GNU/Linux user, Fluent in English and French