Alexandre Avreline

2500 Arundel Lane, Coquitlam, BC, V3K5R8

604-655-3735, savreline@gmail.com, https://github.com/savreline/

SUMMARY. Graduating from the Bachelor of Computer Science program at UBC with prior education and experience in advanced mathematics, chemical and biomedical engineering. Diverse skill set in computer science acquired through coursework and personal projects in operating systems, networking, PL theory, full stack development, scientific computation, machine learning, statistics and graphics. Eager to learn new technologies and learn them well. Strong attention to detail and quality of finished product.

PROJECTS.

- **Operating System Kernel.** A mini operating system kernel: includes memory management, process scheduling and communication, keyboard device driver. CPSC 415 course project, done in pairs, implemented in C and X86-32 assembly. 2019.
- **Mini-Java Compiler.** A compiler for a subset of the Java PL: includes a parser, type checker, translator to intermediate representation, instruction selector, register allocator. CPSC 411 course project, done in groups of three, implemented in Java and X86-64 assembly. 2019.
- **Itinerary Builder.** A single-page web app that suggests to a user a list of attractions to see in a given city and then builds an optimum schedule to visit them. Personal project, implemented using the MERN stack with data fetched from TripAdivsor and Google Maps APIs. Ongoing.
- **Mathematical Model of TRIUMF Cyclotron's Cryogenic System.** Model based on thermodynamics and heat transfer fundamentals. Applied to calculate heat losses from the cryogenic system. From a 4-month internship at TRIUMF, implemented in MATLAB. 2016.
- **Mathematical Model of Growth Factor Delivery to Stem Cells.** Model based on 3D reaction-diffusion equations, optimal solutions formed a significant contributions to a research fellow's Ph.D. thesis at the University of Waterloo. Implemented in MATLAB. 2010–2011.

WORK EXPERIENCE.

- **BCS Program Teaching Assistant**, University of British Columbia, Vancouver, BC 2019–2020
  Developed and delivered review lectures on discrete math, OO design, low-level programming, asynchronous programming, data structures and algorithms. Increased review lecture's attendance 5-fold. Recorded lecture for future use. Debugged student's code during office hours.
- **Full-time Research Associate**, University of Waterloo, Waterloo, ON 2010–2011
  Designed and fabricated innovative electro-mechanical systems that made long-term cell tracking experiments possible. Cultured mammalian cancer and stem cells.
- Five internships in chemical engineering and physics at pharmaceutical companies, an automotive paint processing plant and ultrafast fiber laser lab. 2006-2009

EDUCATION.

- **Bachelor of Computer Science (BCS)** [GPA: 89.3%] 2017–2020
  University of British Columbia, Vancouver, BC
- **Course Work in Advanced Mathematics** 2013–2014
  University of British Columbia, Vancouver, BC
- **Bachelor of Applied Science (BASc)** 2005–2011
  Chemical Engineering with Mathematics Option
  University of Waterloo, Waterloo, ON
  Stanford Fleming Foundation John Fisher Award for Leadership awarded at graduation

TECHNICAL SKILLS.

- Java, JavaScript, C/C++, Julia, MATLAB
- Node.js, React.js, MongoDB, WebGL, Git

INTERESTS. Automotive restoration and repair, travel, reading, skiing.