Alexander Gosselin

Vancouver B.C.

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OBJECTIVE

To do challenging work and develop my knowledge of mathematics, software, and industrial problems.

EDUCATION

University of British Columbia **Vancouver, B.C.**
B.A.Sc. Engineering Physics, Mechatronic Science *November 2018*

Relevant Coursework
- **Mathematics:** partial differential equations, complex analysis, linear programing, graph theory, probability
- **Physics:** solid state physics, classical mechanics, electrodynamics, optics, computational physics
- **Electrical engineering:** circuits, electromechanics, algorithms, assembly and VHDL programming
- **Mechanical engineering:** mechanical vibrations, mechanical design, fluid mechanics, heat and mass transfer
- **Mechatronics:** sensors and actuators, modeling mechatronic systems, microcontroller programming in C
- **Project courses:** autonomous robots, vibration response of gel droplets, long-range stereo vision

TECHNICAL WORK EXPERIENCE (UBC SCIENCE CO-OP)

Prime Focus World **Vancouver, B.C.**
Junior Pipeline Developer (Visual Effects) *May – September 2014*
- Developed documentation and proof-of-concept demonstrations for internal research projects

UBC Institute of Applied Mathematics Complex Fluids Lab **Vancouver, B.C.**
Research Assistant *May – December 2013*
- Operated a flow-loop for oil pipeline startup and well completion research
- Used cameras, LabView, and MATLAB image processing tools to measure flow profiles
- Designed and contracted for custom fabrication of improved acrylic flow-loop components
- Contributed geometry generation code to a fluid dynamics simulation written in C++

Coanda Research & Development **Burnaby, B.C.**
Student Engineer *January – May 2012*
- Helped assemble and operate pilot plants for oilsands tailings remediation research
- Worked hands-on with industrial pumps, mixers, scissor lifts, pipe fittings, chemical test equiment

ADDITIONAL

Programming Languages and Tools
- **Python:** highly proficient in writing idiomatic and performant object-oriented code; familiar with standard library, scientific plotting and numerical libraries, pandas, Tkinter GUI framework, and OpenCV bindings
- **C++:** proficient in use of standard template library classes and algorithms
- **Others:** self-taught to fluency in Haskell; used Intel 8051 assembly, VHDL, C, C#, and MATLAB in university coursework; basic proficiency in Scheme, Prolog, Ada, and Emacs Lisp; uses Emacs, Org Mode, and LaTeX to prepare reports
- **SolidWorks:** hundreds of hours experience in 3D modeling, computer aided design, and 3D printing
- **Other work experience:** Used bookstore clerk, night shift shelf stocking, sign spinning, construction cleanup, warehouse worker, painter's assistant, ice cream scooper, and general labourer at yoga ashram

Vice-President Academic, Engineering Physics Student Society *May 2013 – April 2014*
- Helped to organize and cater monthly physics seminars and other events
- Organized paid final exam review sessions for first year engineering students

Personal Interests
- Solved 106 Project Euler problems
- Full-time Linux user since 2013
- Custom designs and builds road bikes
- Plays fiddle, mandolin, and octave mandolin