SUMMARY

Compulsively creative, I love to learn new skills with every project - whether I'm writing code, knitting cephalopods or making educational STEM toys with my 3D printer. Visions of the future and accelerating technological change excite me. I am meticulous and methodical, highly communicative and deeply empathetic.

SKILLS

Languages: Python, JavaScript, jQuery, HTML/CSS, Ruby

Frameworks: Flask, Node.js, Rails, Bootstrap

Data science: SQL, Matplotlib, NumPy, Pandas

Math: Vector calculus, statistics, linear algebra

Physics: Computational physics, quantum mechanics, electricity & magnetism, environmental physics

EXPERIENCE

Software Developer
Feb 2017 - May 2021

Convergent Manufacturing Technologies, Vancouver BC

Developed mathematical modelling, data visualization and UI/UX components for composites process modelling software suite used by major aerospace contractors

Participated in product architecture design for the next major version (V4) of RAVEN with guidance and mentorship from principal engineers. Provided valuable input around architectural issues in the existing, legacy code (V3)

Designed and implemented significant portions of the V4 GUI and plotting functionality

Analyzed results of the V3 automated test suite and triaged failures into 1) issues with test code or 2) issues with product code. Fixed test code and filed bug reports as appropriate

Software Developer (Practicum)
Aug 2016 - Nov 2016

Swift Fox, Vancouver BC

Gathered requirements, wrote functional spec and built standalone functional prototype for technician scheduling module using Node.js, Express, MySQL

Computational Biophysics Research Assistant
May 2006 - Aug 2006

Dalhousie University Physics Department, Halifax, NS

Produced original research results using computational modelling in C
Modified existing codebase simulating E.coli cell with oscillating protein reaction-diffusion system related to cell division

Jessica Peters

Software Developer

EDUCATION

Bachelor of Science in Physics

Computer Science I & II - Java, OOP, algorithms, data structures

Computational Methods in Physics - Python, data analysis

Dalhousie University
2007

Web Development Bootcamp

Full Stack Web Developer

Lighthouse Labs
2016

Diploma of Technology in Environmental Protection

Environmental Protection Technologist

Kwantlen Polytechnic University
2011

CONTACT

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Jessica Peters

Software Developer

PROJECTS

V4 Plotting - Generalized plotting module which provides data visualization in interactive multidimensional plots, while freeing development from being locked into using a particular plotting library and GUI framework. I designed and built the back-end and large portions of the desktop and web front-ends, and worked on the API implementation.
Python, NumPy, Matplotlib, wxPython, Plotly, JavaScript, jQuery, HTML/CSS
Convergent Manufacturing Technologies

1D Thermal Profile App - Enables the user to set up a 1D "drill-through" simulation of a composite material as it cures, and view plots of simulation results, via desktop app or web app. I worked on the desktop and web front-ends.
Python, NumPy, Matplotlib, wxPython, Flask, JavaScript, jQuery, HTML/CSS, Bootstrap
Convergent Manufacturing Technologies

Parametric Study App - Allows the user to enter parameter values for many finite element simulations at once, and choose which plots they want to see. It processes the output data, generates and displays the requested plots. I designed and built the UI, and worked on data processing and data visualization.
Python, NumPy, Matplotlib, wxPython
Convergent Manufacturing Technologies

T Dynamic Template - Generates a mesh for simulating a T-shaped assembly based on user inputs, and formats the mesh and other input data for the finite element analysis engine. I was responsible for mesh generation, data formatting, updating the UI, and integrating the new template into the legacy codebase.
Python, NumPy, NetworkX, wxPython
Convergent Manufacturing Technologies

Swift Fox Tech Scheduler - Technician scheduling module which manages ISP technicians' work schedules and service call bookings. I designed and built the full-stack functional prototype.
Node.js, Express, jQuery, HTML/CSS, Bootstrap, MySQL
Swift Fox Systems

Operation Thunderbird - Data analysis and visualization of classroom occupancy data for UBC Facilities Planning and Sensible Building Science. I worked on layout and data visualization on the front-end, and on the database back-end of this group final project.
Ruby on Rails, JavaScript, jQuery, HTML/CSS, Bulma, Highcharts, Postgres, Sidekiq
Lighthouse Labs

ShareGarden - "Airbnb for gardens": connecting people with garden space who lack time, energy or expertise with people who would love to garden but have no space to do it. I worked on the database and front-end of this group midterm project.
Ruby on Sinatra, JavaScript, jQuery, HTML/CSS, Bootstrap, sqlite3
Lighthouse Labs

Min Oscillations - Simulation of an E.coli cell with oscillating protein reaction-diffusion system related to cell division. I worked on computational modelling, data visualization and data analysis.
C
Dalhousie University Physics Department

ENVIRONMENTAL EXPERIENCE

Logistics Technician

AGAT Laboratories
Jul 2013 - Jun 2014

Ground Water Scientist

Environment Canada
Jan - May 2012

Compliance Coordinator (Practicum)

Hazco Environmental
Sept - Oct 2009

INTERESTS

3D printing
STEM toy design
Camping
Knitting

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