

JOEY SHI

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TECHNICAL SKILLS

Languages: Scala · Java · TypeScript · HTML · CSS · Python · C/C++ · Bash · SQL · Julia

Frameworks/Libraries: Angular · Jasmine · Node.js · D3.js · Flask · Pandas · PyTest · Javalin · ScalaTest

Tools/Technologies: Git · Linux · Docker · Android Studio · Vim

EXPERIENCE

University of British Columbia

Jul 2020 – Apr 2023

Teaching Assistant

Vancouver, BC

- Led tutorials for 2 different sections of a third-year computer networking course.
- Designed PrarieLearn exam questions for the computer networking course.
- Accommodated first-year calculus tutorials for 2 different sections.
- Implemented WeBWork questions in Perl for calculus assignments and exams.

Vital Mechanics Research

May 2022 – Oct 2022

Software Developer

Vancouver, BC

- Researched topics in geometry processing and CAD software for clothing simulation.
- Developed pipeline for extracting and inferring garment geometry and stitches from GLTF and DXF files.
- Applied numerical methods and graph theoretic approaches to infer information about garment stitching.

Visier Inc.

Jan 2021 – Dec 2021

Full-Stack Software Developer

Vancouver, BC

- Built end-to-end features using tools, such as Scala and Angular.
- Co-led an epic with 2 other project members to deliver a feature for resolving tenant data issues within the application.
- Built a Scala backend API for reporting and correcting data issues in tenant data versions.
- Mentored other co-op students on REST APIs, network debugging, and traversing large code repositories.

PROJECTS

Computer Review Site | Javalin · JDBC · SQL

Nov 2022 – Present

- Collaborated in a group of 3 to design a full-stack web application for reviewing computers.
- Implemented backend database operations and SQL queries.
- Setup Maven configurations and build scripts.
- Dockerized and deployed application on a personal Raspberry Pi.

Multiplayer Browser Platformer | TypeScript · Node · Socket.IO · Docker

Dec 2021 – Present

- Designed a real-time multiplayer browser platformer using the HTML5 Canvas API.
- Built a backend web socket API to update and broadcast player data.
- Implemented logic for player movement, animation, physics, map design, and tile collision.
- Dockerized and deployed application on a personal Raspberry Pi.

Differential Equation Solver | Python · Matplotlib · Tkinter

Dec 2019 – Present

- Implemented efficient finite difference algorithms to solve ordinary and partial differential equations.
- Designed a graphical user interface in Tkinter and added animated plots for visualizing the generated solutions.
- Built a CI/CD pipeline with PyTest, Tox, and Github Actions.
- Published the application on the Python Package Index.

EDUCATION

University of British Columbia

Sep 2018 – May 2023

Bachelor of Science | Combined Major in Computer Science and Math

Vancouver, BC

- Cumulative GPA: 91%
- Dean's Honour List (2018 – 2021); Science Scholar (2019)

SCHOLARSHIPS

Stanley M. Grant Scholarship in Mathematics

Jan 2021

Charles and Jane Banks Scholarship

Sep 2020

Trek Excellence Scholarship

Aug 2020