

JOEY SHI

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EXPERIENCE

Visier Inc.

Software Developer II

April 2023 – Present

Vancouver, BC

- Wrote data connector modules in Scala to pull HR data from third party systems, such as Oracle DBMS and AWS Aurora.
- Talked directly with customers to identify requirements for integrating our product into their business processes.
- Built data flow graph visualization libraries in TypeScript and Angular UI components to simplify ETL pipeline configuration.
- Wrote detailed sets of technical documentation in Confluence for features I contributed to.
- Maintained and monitored critical AWS Scala microservices to ensure high availability and reliability.

University of British Columbia

Teaching Assistant

Sep 2022 – Apr 2023

Vancouver, BC

- Taught and facilitated the tutorial sessions for the CPSC 317 computer networking course.
- Implemented randomized PrairieLearn exam questions in Python and HTML for CPSC 317.

Vital Mechanics Research

Software Developer

May 2022 – Oct 2022

Vancouver, BC

- Researched topics in geometry processing and CAD software for 3D clothing simulation.
- Developed a Python CLI tool for extracting garment geometry and stitch information from glTF and DXF files for clothing.
- Implemented mathematical optimization algorithms to model garment edges as Bézier curves and approximate stitch point positions along the garment.

University of British Columbia

WeBWorK Content Developer

Jul 2020 – Dec 2020

Vancouver, BC

- Implemented randomized WeBWorK questions in Perl for first-year calculus homework assignments and exams.
- Worked through multiple question set iterations with professors to estimate and adjust exam difficulty.
- Developed a proof of concept for embedding interactive graphs into questions by leveraging the Desmos JavaScript API.

PROJECTS

PC Builder Website | Java · Angular · MySQL · Docker

- Implemented a full-stack web application for browsing PC builds and picking PC components.
- Designed an SQL database schema and REST API to support a variety of CRUD operations.
- Wrote build scripts and docker-compose files to streamline the deployment process.
- Setup hosting for the application on a Linux server running Nginx at home.

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

- Built a real-time multiplayer browser platformer using the Canvas 2D rendering context API.
- Designed a backend web socket API to update and broadcast player data across multiple clients.
- Implemented player movement scripts, sprite animation, game physics, map rendering, and collision logic.

Differential Equation Solver | Python · Matplotlib · Tkinter

- 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

Bachelor of Science | Combined Major in Computer Science and Mathematics, with Distinction

Sep 2018 – May 2023

Vancouver, BC

- Graduated with a 4.0/4.0 GPA.
- Completed the Co-op Education Program.
- Received the Stanley M. Grant Scholarship in Mathematics (2021) and Trek Excellence Scholarship (2020).

TECHNICAL SKILLS

Languages: Python · Golang · Scala · Java · TypeScript · JavaScript · HTML5 · CSS3 · C/C++ · SQL

Frameworks/Libraries: Angular · React · Node.js · D3.js · Flask · Pandas · Pytest · Javalin · ScalaTest

Tools/Technologies: Visual Studio · PowerShell · Cloudflare · AWS · Docker · Git · Arch Linux · Neovim · Zsh · tmux