Joey Shi

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Education

University of British Columbia

Mathematics & Computer Science
2018 – 2023
cGPA: 4.33 / 4.33
Science Scholar / Dean's Honour List

Technical Skills

Programming Languages

Python
Typescript
JavaScript
Scala
Java
Bash
C++
C

Frameworks / Libraries

Angular
Express
React
Flask
Scikit-learn
Numpy
Matplotlib

Tools / Technologies

Git
Arch Linux
Vim
Android Studio
MATLAB
Microsoft Excel

Work Experience

Visier Inc.

Software Developer Intern | Jan 2021 – Dec 2021

- Worked in full-stack agile web development using Scala and Angular
- Implemented frontend UI for listing and configuring hierarchical tenant content packages
- Built backend API with a partner for reporting and flagging data issues in tenant data versions

University of British Columbia

WeBWorK Content Developer | Jul 2020 – Dec 2020

- Implemented WeBWorK questions in Perl for UBC calculus exams
- Incorporated visuals and animations into past questions using JavaScript and the Desmos API

Projects

Differential Equation Solver | Python

- Used efficient finite difference algorithms to solve custom ordinary and partial differential equations
- Implemented interactive animations and plots for generated solutions
- Designed graphical user interface with TkInter
- Added support for exporting solutions as XLSX files

Image Compression with Binary Trees | C++

- Used hierarchical data type to represent an image partitioned based on colour variance
- Wrote a binary tree pruning algorithm to compress images

Trivia Train | Java, Android Studio

- Requests and processes JSON data from the Open Trivia API to run a high-score based quiz game.
- Wrote simple layouts in xml for user interactions
- Implemented local high score caching

Hackathons

nwHacks 2019

Bananos | Java, Android Studio

- Created grocery purchasing optimization tool by comparing item prices between selected stores
- Implemented functions to parse speech for item names and quantity