



# 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  
Socket.IO  
React  
Flask  
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

### Multiplayer Browser Platformer | Angular, Node, Socket.IO

- Designed and deployed a real-time multiplayer browser platformer
- Wrote web socket endpoints to update and broadcast player data
- Implemented a character behaviour script with animation, 2D physics and tile collision logic from scratch

### Linux Desktop Environment | Arch Linux, ZSH, Vim

- Configured an efficient keyboard-based tiling desktop environment over an Xorg server using BSPWM
- Researched and documented how to set up network, bluetooth, speakers, and display monitors in a Github repo
- Wrote an automated shell script for installing assets and linking dotfiles

### 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