



# Joey Shi

[joey.shi@alumni.ubc.ca](mailto:joey.shi@alumni.ubc.ca)

<https://github.com/joeyshi12>

<https://joeyshi.tech/>

## Education

University of British Columbia

Mathematics & Computer Science

2018 – 2022

cGPA: 4.33 / 4.33

Science Scholar / Dean's Honour List

## Technical Skills

### Languages

Python

Java

Javascript

C++

C

C#

HTML

CSS

LaTeX

Assembly

Perl

### Tools / Environments

Git

Unity

Android Studio

Jupyter Notebook

MATLAB

### Libraries

Scikit-learn

Numpy

Matplotlib

Pygame

p5.js

## Projects

### Differential Equation Solver | Python

- Used finite difference methods and Numpy array manipulation to solve ordinary and partial differential equations
- Created method for recording solutions into an Excel file
- Implemented methods for plotting and animating solutions
- Designed GUI with TkInter for inputting parameters

### Image Compression with Binary Trees | C++

- Created hierarchical binary tree datatype to partition images based on colour variance
- Used binary tree pruning algorithm to compress images

### Trivia Train | Java, Android Studio

- Requests and processes JSON data from an Open Trivia API
- Designed quiz class to distribute questions and compute score
- Implemented simple layouts and high score saving

## Work Experience

University of British Columbia

### Undergrad Academic Assistant | July 2020 – August 2020

- Coded WeBWork questions in Perl for UBC calculus students
- Refactored old code and material in the WeBWork problem database to be more modular

### Earls

### Line Cook | September 2016 – June 2018

- Cooked panfry dishes during evening shifts 3 times a week
- Portioned food and washed dishes and equipment

## Hackathons

nwHacks 2019

### Bananos | Java, Android Studio

- Created grocery purchasing optimization tool by comparing item prices between selected stores
- Developed functions for parsing speech for item names and quantity