

Jack He

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EDUCATION

UNIVERSITY OF BRITISH COLUMBIA

BSC MAJOR IN COMPUTER SCIENCE

Expected Grad: May 2023

Cumulative GPA: 4.0 / 4.0

Major GPA: 4.0 / 4.0

Dean's Honour List 2019, 2020

COURSEWORK

CPSC 221 Data Structures + Algorithms

CPSC 213 Computer Systems

CPSC 210 Software Construction

CPSC 110 Systematic Program Design

CPSC 121 Models of Computation

DSCI 100 Data Science

SKILLS

Languages

JavaScript • Typescript • Python • C++
C • Java • PHP • HTML • CSS

Frontend/Backend

React • Redux • Angular • Node.js
Express • SASS • JQuery • JavaFX • Flask
• MongoDB • MySQL

DevOps

Unix • Linux • Bash • Git • CI/CD
Github Actions

YOUTUBE

Web Link

40,767 views

My educational channel covers:
How to Code a Sudoku Solver,
Algorithm solutions,
Systems design planning

AWARDS

FINALIST

- HackTech 2020
- Best entertainment hack

BEST MOBILE HACK

- Game of Apps 2019
- Most technically complex

MOST POPULAR HACK

- NWHacks 2021
- Honorable mention

SCHOLARSHIP

- Artona High School Scholarship

INDUSTRY EXPERIENCE

MICROSOFT | EXPLORE INTERN

May 2020 - August 2020 | Redmond, Washington, USA

- Implemented a new proof of concept for a product under development
- Developed the user interface for an Enterprise tool using **Angular** and **Node.js**
- Designed product specifications for an end to end user experience

GAME OF APPS | SOFTWARE ENGINEER INTERN

July 2019 - September 2019 | Richmond, BC

- Used **XCode** and **Swift** to develop the Game of Apps flagship iOS app.
- Designed core data flow and model schema for the interactions between the mobile app and the **Firebase** backend.
- Fixed a bug that spontaneously logged out 200+ users

TEACHING EXPERIENCE

UNDERGRADUATE TEACHING ASSISTANT | CPSC 121

September 2020 - Present

- Lead weekly labs for 50+ students, graded exams and assignments, held office hours.
- Communicating the design, analysis, and justification of fundamental proof techniques.
- Designed Solutions to Assignment Problems.

TECHNICAL PROJECTS

CHESS GAME WITH VIDEO CHAT Github | Project link

2 friends can play chess and chat with each other by sharing a common URL. **Socket.io** is used for real-time play and **WebRTC** is used for the **video chat**. **React.js** is used for frontend, and **Node.js + Express.js** is used for backend.

ASL SIGN LANGUAGE CLASSIFIER Github | Project link

Machine Learning Model trained using 3000+ images from Kaggle for interpreting sign language hand gestures. Microsoft Azure + Tensor-flow is used to handle the ML in **python 3.7**, and **React.js** is used for front-end.

CALCULUS VISUALIZER Github | Project link

Graphing tool built using **javascript**, **Webpack** and Desmos SDK to visualize Derivatives, Taylor Series, and Riemann sums.

OTHER WORK AND FUN

WEBWORK BUDDY Web Link

2,836 total users as of February 2021

Simple Web App + Chrome Extension to translate between Latex Math Expressions to a format WebWork understands.

DONATE COVID-19 Web Link

3,047 total users as of February 2021

Donate COVID-19 is meant to direct users to resources to support the growing effort to fight COVID-19. I was responsible for designing the Firebase model schema for when users submit donation requests. I also implemented the bulk of the React.js frontend.