

Patrick He

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Skills

Languages: Python, Javascript, HTML/CSS, SQL, Processing (Java), C++

Tools/Frameworks: React.js, Redux.js, Node.js, MongoDB, Flask, Git, Postman, Selenium

Work Experience

Site Reliability Engineering at Bonsai

May 2021 to August 2021

- To be determined

Python Tutor at Canfly Education

July 2020 to January 2021

- Taught 20+ students an introduction to Python course
- Programmed games live and on the spot by class choice such as Snake, Hangman, and Pong

Projects

Wikisolver — *Python, Flask, Socket.io, React, NLTK*

- Developed an algorithm to find the path from one Wikipedia page to another by only using hyperlinks found on the pages
- Built backend server using Flask, Socket.io, and NLTK for data transfer and calculations
- Created an interactive and responsive frontend using React
- Used concepts from data structures and algorithms such as breadth-first search and hashmaps

CrowdRank — *Node, Express, React, MongoDB, Redux*

- Built and deployed a MERN application where users can create and vote on tier lists
- Created a REST API with Node for creating, deleting, viewing, and modifying posts
- Implemented an ELO-system to rank items stored in a database using MongoDB

Webb Generator — *Python, Basic, 3D graphics*

- Built a Basic code generator in Python to program an LED cube through a microcontroller
- Simulated a 3x3 LED cube in 3D from scratch with a UI to turn the LEDs on and off

Volunteer Experience

Organizer at JAMHacks

September 2018 to May 2019

- Managed the mailing and registration systems using Mailchimp, Mailgun, and Python scripts
- Organized all of the logistics including setup, takedown, and workshop planning
- Developed communication skills through presenting to hundreds of students at once

Awards

- Canadian Computing Competition 2020 Senior **Honor Roll** (top 5% nationally)
- Google Kickstart 2020 Round F **835th place** (top 10% globally)
- Educational Computing Organization of Ontario **Provincial Finalist** (13th Provincially)

Education

University of Waterloo

September 2020 to present

Candidate for Bachelor of Computer Science, Co-op