

Shawn (Yi Xiao) Lu

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shawnlu.dev



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Technical Skills

Languages:

- Python
- JavaScript
- Java
- C/C++
- Verilog
- HTML/CSS

Tools:

- GDB
- Bash
- Quartus
- MATLAB
- MongoDB
- PostgreSQL

Experience:

- OpenCV
- MediaPipe
- SoC FPGA
- PennyLane
- AWS EC2
- Rest APIs

Education

University of British Columbia

Bachelor of Applied Science - Computer Engineering

Graduation: May 2023

University Transition Program

Accelerated secondary school program for gifted students funded by BC Ministry of Education.

Completes 5 years of highschool curriculum within 2 years.

Early University admission at the age of 16.

Work Experience

Robokids, Coquitlam, BC

August 2020 - Present

Teacher

Guides K-12 students with interests in robotics, coding, mathematics, or 3D design to develop their passions, complete projects, and prepare for contests.

Projects

Shawnlu.dev, Personal Project

2023

A website that displays information about me.

- **Languages:** HTML, CSS, JavaScript
- **Technologies:** JQuery, Express.js
- Created front-end and back-end and deployed on my Raspberry Pi.

Gesture-Controlled Drone, Capstone Project

2022

DJI Tello drone controlled wirelessly with Huawei's Atlas 200DK board.

- **Language:** Python
- **Technologies:** OpenCV, OpenPose, MediaPipe
- Programmed 5 body-posture recognition logics and processed images into commands.
- Implemented PID-tracking to keep the user's face centered during flight.

Projects

Flow , School Project	2022
<i>A JavaScript-program analyzer that displays diagrams to visualize function calls.</i>	
<ul style="list-style-type: none">• Language: JavaScript• Technologies: Espree, React.js• Parsed JS-programs into Abstract Syntax Trees using espree.• Generated diagrams using Mermaid and displayed them on a React app.	
Bloq , School Project	2022
<i>A Domain-Specific Language that helps game developers create tiled maps easily.</i>	
<ul style="list-style-type: none">• Languages: Java, Python• Technologies: ANTLR, JavaFx• Written an easy-to-use and unique grammar with 8 features including functions and loops.• Performed multiple user studies for feedback, based on which, improved the final product.	
M68kV6.0 System , School Project	2022
<i>Motorola 68000 system programmed into De1-SoC's FPGA.</i>	
<ul style="list-style-type: none">• Languages: Verilog, C• Technologies: ModelSim, FPGA, Hyperterminal• Designed hardware circuits in Quartus including DRAM, Cache, SPI Bus & CANBus controllers.• Interacted with the De1-SoC's DRAM and loaded C programs with hyperterminal.	
Android App , School Project	2020
<i>A messaging App in which you can add friends and send messages.</i>	
<ul style="list-style-type: none">• Languages: Java, JavaScript• Technologies: Android Studio, MongoDB, Express.js• Worked on both front-end and back-end as well as connecting the two ends.• Built a RESTful API for managing user/app data and interacting with the database.	
Discord Bot , Personal Project	2019
<i>Discord client made with discord.js for Discord Hack Week.</i>	
<ul style="list-style-type: none">• Language: JavaScript• Technology: discord.js• Created 14 commands including checking stocks, translating messages, and searching images.	

Awards

Best Slack Workshop Hack Award	2018
UBC Local Hacks Day	
Gold Award	2018
The Queen's Commonwealth Essay Competition	
CEMC Cayley Math Contest Gold Medalist/School Champion	2017
Top 0.05% out of 20,499 contestants	