Amin Fahiminia

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Education

University of British Columbia Vancouver, BC
Bachelor of Applied Science, Computer Engineering *Expected May 2025*
CGPA: *85%, Dean's Honor List*
Courses: *Software Construction in Java, Data Structures and Algorithms, Computer Hardware/Firmware*

Technical Skills

Languages: Python, Java, C, C++, JavaScript, TypeScript, SystemVerilog, ARM Assembly, SQL
Frameworks: Flask, TCP/UDP Protocols, Socket.IO, Docker, JUnit/unittest, Jupyter Notebook, React JS/Material UI, NumPy/Matplotlib
Developer Tools: Git/GitHub, Linux, ModelSim, Quartus, VSCode, Arduino, FPGA's

Technical Experience

UBC Uncrewed Aircraft Systems, *Robotics/Aerospace Design Team*

Software Developer Jan 2022 – Present
- Created a Flask server capable of handling dynamic flight mission queues through GET and POST requests, sending appropriate coordinates to the drone in real time
- Constructed a web-application utilizing the React framework as well as Typescript, HTML, and CSS that streamed a live feed from an autonomous gimble and provided means for real-time control. Utilized in competition
- Developed a comprehensive backend using Python and Socket.IO, enabling a reliable connection between the ground control system and the drone during competition

Quality Assurance Specialist Sep 2021 – Dec 2021
- Tested and verified backend functionality of drone software housed on an onboard Odroid SoC. The script expedited the quality assurance process, ensuring functionality of hardware and software systems
- Worked closely with the software development team to identify the root cause of defects, and facilitated execution of tests across different components
- Wrote comprehensive documentation in Confluence, including requirements, use cases, and design specs
- Developed and executed testing processes for new and existing features to meet project specifications under tight deadline

Projects

CaptionConcierge (NWHacks 2023) | *Python/Flask, ReactJs, HTML/CSS, Object Oriented Design*
- Developed and Tested a full-stack web application that interacted with the OpenAI and Youtube API's
- Wrote a server side, object-oriented program in Python/Flask that sent/received HTTP Requests and processed data into JSON Objects
- Wrote concise documentation and prepared an elaborate presentation for a group of panel judges

Twitter Listener Server | *Java, JUnit, TCP/UDP Protocols, Git*
- Integrated a thread-safe query service for fetching Tweets using Twitter's built-in API in Java
- Implemented a dynamic caching algorithm that offsets heavy network use from multiple clients
- Developed a server that wrapped for the service, allowing it to be hosted on the web to handle requests from clients worldwide

Big Data Analysis Project | *Python, Jupyter Notebook, Pandas, NumPy, Matplotlib, SQL*
- Conducted an observational study using the data-analysis capabilities of Python, resulting the paper being entered into a competition at the national level
- Pulled data from a vast array of databases to construct a comprehensive research paper with detailed findings
- Used SQL queries to interact with relational databases to extract the necessary information for the study

Turing-Complete SystemVerilog CPU | *SystemVerilog, ARM Assembly, Linux (SSH), ModelSim, Quartus*
- Designed a fully functional CPU, complete with a Datapath, controller FSM, and RAM/Register Modules
- Employed tools such as Modelsim and Quartus to aid in the verification and synthesis process
- Implemented a subset of the ARM Assembly Instruction set, enabling the machine to run scripts in real time