William Zhang

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Profile

Computer engineering student with a solid educational background. Skilled in Python, Java, C/C++, and HTML/CSS. Seeking a computer science or engineering internship.

Education

University of Waterloo   **September 2023 - April 2028**
Candidate for Bachelor of Computer Engineering   *Waterloo, ON*

- Relevant Courses: Programming (C++), Linear Algebra, Calculus, Circuits, Electricity and Magnetism

Technical Skills

Programming Languages: Python, Java, C/C++, HTML, CSS, Bash, SQL, YAML, LaTeX
Software Knowledge: VS Code, Eclipse, Git, Jira, Linux, Debian, MySQL
Technologies/Frameworks: Docker, Flask, Microservices, Web Scraping
Hardware Knowledge: Raspberry Pi, STM32 micro-controller, I2C (Inter-Integrated Circuit) Protocol

Experience

GeekWeek 8 Participant   **July 2023**
Canadian Centre for Cyber Security   *Ottawa, ON*

- Implemented an HTML file to build a simple web app for users to enter the URL
- Developed a Python script to receive the URL entered by the user, which is shared with the other container in a text file. It also renders the report in a separate web app route
- Implemented a YAML configuration file to containerize a Flask web app frontend and a ZAP website security scanner backend in Docker. It launches the security scanner and web app containers simultaneously with Docker Compose, and links the containers' folders through Docker Volumes ⌂

Restaurant Team Member   **July 2023 - August 2023**
Thai Express   *Ottawa, ON*

- Served customers at the cash register while observing the camera and doorbell
- Assisted in kitchen operations by packing bowls of noodles within a required weight range

Projects

Temperature Aware Mug (ECE 198) | *C, Firmware, I2C Protocol, Circuits* | ⌂   **September 2023 - November 2023**

- Prepared technical documents to streamline the design process and used Jira to keep track of project tasks
- Programmed an STM32 Nucleo board in C to control five peripherals: an infrared temperature sensor, an LCD display, a potentiometer, a buzzer, and a push-button. Successfully tracked and displayed the temperature of a hot mug and sounded the buzzer when the drink cooled to a user-preset temperature

Flight Tracker | *Python, MySQL, Shell Scripting* | ⌂   **December 2022 - January 2023**

- Set up a flight tracker on a Raspberry Pi with an RTL-SDR (Realtek Software Defined Radio) flight antenna and a signal decoder
- Wrote shell scripts that collect data from the antenna and send data through a TCP port to a text file
- Developed a Python program to scan the text file, filter data, and push it to a MySQL database
- Implemented a flight data analyzer that reads from the database and outputs flight traffic statistics

Weather Web Scraper | *Web Scraping, MySQL, Python* | ⌂   **December 2022 - January 2023**

- Programmed a Python web scraper that collects weather data from Google for various cities by using the BeautifulSoup and Requests libraries
- Implemented a Python program to store the data in a MySQL database
- Developed a weather analyzer that reads the database and outputs city weather statistics over a user-inputted period

Interests

Technical: Algorithms, Cloud Computing, Cybersecurity, Artificial Intelligence
Hobbies: Classical music, Reading, Running, Badminton