Maggie Gu

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Education

University of British Columbia	Expected May 2025
Bachelor of Applied Science in Computer Engineering	*Vancouver, BC*

Experience

Amazon — Incoming Summer 2024
Software Development Engineer Intern — *Vancouver, BC*

UBC Software Analysis and Testing Research Lab — April 2024 – Present
Research Assistant — *Vancouver, BC*
- Developed advanced generative software tools by architecting and optimizing Large Language Models while preparing research paper publication
- Conducted studies using Python to provide benchmarks for tool testing

Broadsight Tracker — March 2023 – April 2024
Full-Stack Developer — *Remote*
- Implemented a new feature using React, resulting in **35% increase in new user interest** within the first month
- Authored 20+ unit tests using **Jest** leading to a **10% reduction in average weekly reported issues**
- Spearheaded OWASP security assessments across the infrastructure with focus on code injection attacks

OVCARE — April 2023 – August 2023
Data Engineer — *Vancouver, BC*
- Designed data pipeline using R, Python, and SQL currently being **used across 5 research labs**
- Developed graph algorithms to implement database schemas to detect and model trends with **84% accuracy**
- Automated recurring data retrieval with **Python** scripts, eliminating the need for costly third-party API calls

Tesla — February 2022 – August 2022
Project Management Intern — *Fremont, CA*
- Managed multiple infrastructure improvement projects, **valued up to $4.3 million**, for Models 3 & Y
- Developed a Python script to organize photos based on metadata, **reducing man-hours spent sorting by 70%**
- Led assessment study to determine viable solutions for time-logging issue including wire-frame developments

UBC Department of Civil Engineering — November 2021 - April 2022
Undergraduate Research Assistant — *Vancouver, BC*
- Developed Python program to model environmental impact through infrastructures' lifetime
- Optimized simulation processing performance and data validation in computations by 20% by implementing bandpass metrics and leveraging caching through dynamic calculation and array vectorization

Projects

🔗 **mealio** | *Python, Selenium, MySQL, PHP, React* — December 2023 – Present
- Built a web scraper with Selenium that dynamically scrapes various grocery websites for produce prices and deals
- Designed relational database in SQL to query and normalize collected data and built accompanying web app

🔗 **EduMatch** | *Java, Azure, MongoDB, Android Studio* — September 2023 – December 2023
- Led development a full-stack mobile application designed to match users with qualified tutors
- Implemented a real-time chat feature using WebSocket and Socket.io, enhancing user engagement and reducing response time by 20%

🔗 **Wildfire Detection Module** | *React, Kotlin, LAMP, TensorFlow* — January 2023 – April 2023
- Built and trained early prevention wildfire detection ML model to predict wildfire likelihood given current conditions
- Developed web app using React and contributed to hardware design of micro-controllers for solar panels

Technical Skills

Languages: Python, C, C++, JavaScript, R, Java, SQL, HTML/CSS
Frameworks: React, Django, Express.js, Flask, JUnit, Next.js, FastAPI, pytest
Libraries & Others: pandas, NumPy, PyTorch, TensorFlow, testthat, Node.js, Material-UI, Selenium, MySQL, MongoDB
Technologies: Docker, Linux, Git, AWS, GCP, GitHub Actions, Jira, IntelliJ, VSCode, Emacs, Figma