YUFENG LIU

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Education

Carleton University **Ottawa, ON**

B.S. in Computer Science, AI Stream, Co-op, Biology Minor, 3.67 GPA (A+) Sept 2022 - Apr 2026

- Third Year Standing, Available for 4 months beginning September 2024
- **Relevant Courses**: Intro to Object Oriented Programming, Fundamentals of Web Applications, Database Management Systems, Intro to Systems Programming, Intro to Software Eng., Data Structures & Algorithms, Intro to Robotics

Technical Skills

Languages: Python, Java, C/C++, Typescript/JavaScript, HTML/CSS, SQL, PostgreSQL
Developer Tools: Git, Terminal, Linux, VSCode, Figma, CI/CD Pipeline, ORMs, MongoDB
Technologies/Frameworks: NumPy, pandas, React, Node.js, Selenium, Express.js, Fastify

Experience

Carleton Blueprint **Ottawa, ON**

Volunteer Software Developer May 2024 - May 2025

- Contributing to the development of projects for non-profit organizations in a team of 5

Payment Evolution **Toronto, ON**

Part Time Research Assistant May 2023 - Dec 2023

- Created diverse datasets by developing a **Python script** to enhance an Optical Character Recognition system's accuracy and efficiency by nearly **20%**
- Curated datasets that can train future Language Learning Models to update software accordingly with government payroll changes
- Developed a basic guideline for Neo4j syntax, by constructing graphical databases to investigate their interactions and acquiring proficiency in the Neo4j coding language, **Cypher**

Personal Projects

RHYTHM-REALM | *MongoDB, Express.js, React, Node.js, Javascript, HTML/CSS*

- Developed a web application, aimed at creating a **community-driven platform** for music enthusiasts by utilizing the **MERN tech stack** to build a scalable and efficient backend capable of storing and retrieving music data, enabling users to share thousands of songs through **Spotify's API**, leading to a highly interactive platform
- Designed and integrated a security feature that safeguards user credentials by implementing a hashing algorithm to encrypt user passwords before storing them in the database, ensuring enhanced security

PULSE-PERFORMANCE | *React, Drizzle, Fastify, Javascript, HTML/CSS*

- Collaborated with another developer to build and deploy a **full stack** gym application, that allows employees to manage class scheduling, members to sign up for classes and have member specific information, and adminstrative functionality
- Engineered a sophisticated database, significantly enhancing operational efficiency through streamlining management of members, trainers, and admins, along with an efficient middleware service to route requests sent from the React front-end

LINEAR-REGRESSION | *Python, Selenium, pandas, NumPy*

- Programmed a data extraction tool using **Selenium** for **web scraping**, and efficiently organized the extracted data into an Excel spreadsheet utilizing **pandas** for enhanced data analysis
- Constructed a Linear Regression model to explore fundamental Machine Learning concepts, utilizing techniques such as Z-score normalization and gradient descent, and evaluating performance using the cost function of the dataset
- Enabled a user-interactive platform that allows users to input house features, predict house prices using the developed model, and display the top 5 real-world matches for the given inputs

ROBOTICS | *Java, C++, Arduino*

- Designed and implemented a **C++ application for real-time polling of GPS data** from custom-built Arduino circuits enhancing the telemetry data accuracy for a RC car
- Programmed a sweeper robot to seek and clear objects of a specific colour off a playing board, by processing visual data from a camera and an accelerometer to determine the robot's current state
- Contributed to a group project involving the design of a series of robots, where my robot was designed and programmed to **locate and deliver jars using camera data** and **navigate a maze using LiDAR sensors**