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) Sept 2022 - Apr 2026

- Second 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 Engineering, Data Structures & Algorithms

Technical Skills

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

Experience

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
- Conducted research into graphical databases to facilitate the implementation of natural language learning models in future projects
- 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

TICKET-TRACKER | *HTML/CSS, JavaScript, React*

- Developed a Google Chrome extension that monitors the price of a user-selected product in the background, alerting the user when the price changes
- Modeled and implemented a user-friendly interface for a highly customizable workflow using Figma, HTML/CSS and React
- Applied a **GitHub Actions** (CI/CD pipeline) workflow to automate error checking during application deployment, resulting in a more efficient and streamlined process

LINEAR-REGRESSION | *Python, Selenium, pandas*

- 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

SHORTEST-PATH | *Python, PyGame*

- Developed an interactive application visualizing **Dijkstra's** algorithm, significantly enhancing the understanding and learning experience of other students
- Implemented **PyGame** for the front-end interface, enabling intuitive maze creation and providing clear insight into the application's functionality

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**