




KEVIN WU

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EDUCATION

University of Waterloo

September 2023 – Present

Bachelor of Computer Science - GPA 3.94

Waterloo, ON

- Activities and Clubs: Game Development Club, Mathematics Society

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, C++, C, SQL, Java, HTML, CSS

Technologies: Git, Bash, Unix, Next.js, React.js, MongoDB, Flask, Pandas, NumPy, SciPy, Google Cloud

EXPERIENCE

UWaterloo Aerial Robotics Group (UWARG)

February 2024 – Present

Autonomy Team Software Developer

Waterloo, ON

- Developing and training object detection and classification models to identify particular ground targets for drones, as part of an autonomous drone competition

McMaster University

June 2022 – August 2022

Research and Product Development Intern

Hamilton, ON

- Created a **data-driven athletics product** for competitive swimmers to track metrics such as distance traveled underwater, strokes per length, breaths taken, working under Professor Zheng
- Designed wearable **hardware** using **MbientLab MetaSensors** to collect **10+** types of data relevant to swim quality
- Collected, analyzed, and processed sensor data (.csv) into **10,000+** data points per recorded swim using Python libraries **NumPy, SciPy, Matplotlib** to produce graphs and visualize underwater body movement
- Used **Python** to analyze and develop algorithms to compute data into **7** unique, improvable metrics for swimmers
- Used **Jupyter Notebook** and **Agile methodologies** to document progress and collaborate with others in the project

PROJECTS

EmailManager | Python, Next.js, Tailwind CSS, Flask, SQL (Postgres)

- Created AI-driven web app for email management with user authentication, spam detection, and drafting responses
- Integrated robust **REST APIs** for seamless email management automation with **PostgreSQL**, employing **CRUD operations** and efficient client-server interactions at API endpoints to ensure optimal POST, GET requests
- Utilized **Google Cloud** services to retrieve user email data, **OpenAI's API** to generate & store email replies as drafts
- Leveraged **Next.js** and **Tailwind CSS** styling to create smooth user experience while reducing CSS bundle size

Spotify Discover Whenever | React, Tailwind CSS

- Produced **web app** to help users find up to **50** new recommendations at a time based on Spotify listening history
- Utilized **REST API** principles and **Fetch** to generate recommendations & create playlists, using **Spotify's API**
- Integrated **React Hook** fundamentals to dynamically manage data in components, improving render time by **33%**
- Applied **React, Tailwind, and Figma** design principles to load page faster & improve user experience with Spotify-themed display

Memoir | React, Python (Flask), MongoDB

- Created **Social Media app** with account creation, user authentication, post creation, and data clustering
- Utilized **auth0** for user account management and **MongoDB Atlas** for data storage, enhancing user auth security
- Employed **Cohere** for semantic analysis of user posts, to be processed with a **BIRCH Clustering** algorithm
- Implemented a connected node graph feature using **Scikit-learn** and **D3.js**, visualizing clustered data points

C-RPG | C++

- Developed interactive text-based RPG with a tutorial, story line, **3** playable classes, **25+** monsters, areas, and bosses
- Implemented **OOP** principles (inheritance, polymorphism) to keep code reusable, with minimal boilerplate code in **C++**

AWARDS & ACHIEVEMENTS

National Mathematics Scholarship (\$15,000)

April 2023

Entrance Scholarship

University of Waterloo

- Awarded one of **10 national** awards for achievements in the field of mathematics, and high school extracurriculars
- Mathematic Achievements: Canadian Senior Mathematics Contest - Top **2% of 10,000** ; Euclid Mathematics Contest - Top **4% of 20,000**; Hypatia Mathematics Contest - Top **1% of 4,600**
- Extracurriculars: Student Council Vice President, National-level Swimmer - Top **20** 17 Y.O. 200 Fly in Canada