


# KEVIN WU

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## EDUCATION

### University of Waterloo

Bachelor of Computer Science - GPA 4.0

September 2023 – Present

Waterloo, ON

## TECHNICAL SKILLS

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

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

## EXPERIENCE

### McMaster University

Research and Product Development Intern

June 2022 – August 2022

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 - Value: \$15,000

Entrance Scholarship

April 2023

University of Waterloo

- Awarded for passion in the field of mathematics, notable contest scores, and high school/extracurricular achievements.
- 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**.
- High School Extracurriculars: Student Council Vice President, National-level Swimmer - Top **20** 17 Y.O. 200 Fly CAN