# Kevin Wu

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## Education

**University of Waterloo** **September 2023 – Present**
*Bachelor of Computer Science - GPA 4.0* *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** **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 libaries **NumPy, SciPy, Matplotlib** to produce graphs and visualize underwater body movement.
- Using **Python,** analyzed and developed algorithms to compute data values into **7** unique metrics that swimmers can improve on.
- 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** **April 2023**
*Entrance Scholarship* *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