Rachel Heo

rheo@uwaterloo.ca | Github | LinkedIn | Portfolio

SKILLS

Languages: C, C++, Python, JavaScript/TypeScript, HTML, CSS, Go, SQL, Solidity
Frameworks/Libraries: React, Node, Express, TailwindCSS, Ethers, GraphQL, gRPC, Pandas, Flask
Tools: Arduino, Git, Postman, Protocol Buffers, MongoDB, CircleCI, AWS, Docker, Kubernetes

EDUCATION

UNIVERSITY OF WATERLOO | Bachelor of Software Engineering   Waterloo, ON | September 2022 - April 2026
Relevant Coursework: Intro to Databases(SQL), Data Structures (C++), Intro to Compilers (C), Data Abstraction

EXPERIENCE

SONY INTERACTIVE ARTS | Software Engineer   San Mateo, CA | September 2024 - Present

AUGMENTA AI | Software Engineer   Toronto, ON | January 2024 - April 2024
- Created a **MySQL** stress testing **CLI** with **Go** for analyzing server performance under high load
- Developed a **microservice** for domain records in MySQL DB, using **gRPC** for inter-service communication
- Designed a queue processor using **AWS SQS**, enhancing system responsiveness by 20%
- Implemented graceful shutdown, live/readiness probes, and health checks for 5 services and servers using **Docker** and **Kubernetes**, cutting downtime by **50%** with smooth system transitions

UW BLUEPRINT | Project Developer   Waterloo, ON | September 2023 - August 2024
- Developed user-friendly UI components using **React, TypeScript**, and **ChakraUI**
- Created, tested, and shipped **5+ GraphQL** mutations for user and meal requests using **Python(Flask)**
- Designed and implemented **MongoDB** schemas and indexes, optimizing data storage and retrieval operations, resulting in a **30% reduction** in query response time

ONSEMI | Embedded Software Engineer   Scottsdale, AZ | May 2023 - August 2023
- Collaborated in an **Agile** environment to design and implement **firmware** using **C/C++** for a digital multi-rail, multi-phase power controller, ensuring efficient power management and optimal performance for processors
- Implemented **RTOS** in C++ to divide firmware functionality, reducing critical task execution time by **30%**
- Utilized **Python** and **Pandas** for **scripting** task automations, reducing testing procedure time from 3 weeks to days, and facilitating data analysis with improved data accuracy

PROJECTS

GIEV | **Javascript, React.js, Chakura UI, ExpressJS, NodeJS, ngrok, Infura API, EthersJS, Solidity, Goerli**
- Developed a transparent and customizable charity system leveraging **blockchain** technology, with a focus on privacy through implementing **Zero-Knowledge (ZK) proofs** using Polygon ID

WORDSTORM | **Typescript, React.js, Tailwindcss, Python, Flask, Beautifulsoup, Word2vec, Nlp, Nltk**
- Engineered a search tool for generating a list of words similar to a target word based on contextual relevance, using **NLP** and **Spacy** for text interpretation, then implementing **Word2Vec** model for creating the wordlist

COMMUNITY

WATERLOO BLOCKCHAIN CLUB | Research and Development Team
- Curated a community of **500+ members** involved in yield farming, on-chain analytics, and Web3 development
- Hosted **20+ events** ranging from Q&A evets, social mixers, and technical workshops with speakers

AWARDS

- EthGlobal Waterloo - Best use of Polygon ID (out of 168 teams)
- VEX Robotics Surrey District Competition 2020 - 2nd place (out of 24 teams)