HAROUT KHACHEEKIAN

LinkedIn | hkhachee@uwaterloo.ca | +1 416-835-9494

EDUCATION

University of Waterloo *2020-2025*
Honors Bachelor of Applied Science: Mechatronics Engineering (Co-op)
Languages: Python, React, JavaScript, TypeScript, C++, C, Java, Flutter
Software: JSX, Django, next.js, MongoDB, Firebase, Redis, SQL, AWS, App Engine, Docker, HTML, CSS, Jira/Confluence

TECHNICAL EXPERIENCE

Software Engineer Intern - *360Insights* *Aug 2023 - Present*
- Secured sensitive customer information from database injections and upgraded the **AWS** deployment to a new version using asynchronous programming practices to accelerate the time to deploy the web application.
- Developed new features for a large scale web app with over 50,000+ users through collaborations with various teams in **React** and **Javascript**

Full Stack Software Engineer Intern - *Empire Life Insurance* *Jan 2023 - Apr 2023*
- Spearheaded a comprehensive UI revamp in **React** of an internal tool for technology adoption to be used by principal engineers, driving a 55% increase in user satisfaction through enhanced functionality, usability, and an optimized codebase.
- Orchestrated a seamless migration of the database from **MongoDB** to **Firebase**, resulting in a 50% acceleration in data retrieval and storage processes including rewriting **CRUD** methods in **Python** for enhanced efficiency.
- Optimized **Github workflows** for continuous delivery/integration (CD/CI) and streamlined deployment of the application to **App Engine**, ensuring a smooth and efficient development process.
- Redesigned the database structure of a web application and implemented a robust authentication-based access system using **Google Cloud** which led to enhanced user data security and access controls, while also boosting data query performance by 40%.

Software Engineer Intern - *Headspin* *May 2022 - Aug 2022*
- Revamped the bucket storing process for server stacktraces across 30 services, leveraging **Python**, **Redis**, and **SQL**, resulting in a 150% quicker time to fetch data.
- Significantly enhanced the usability of the internal diagnostics monitor by developing a user-friendly UI that allowed convenient sorting of stacktraces by service type.
- Leveraged **React, JSX,** and **RxJS**, to build web app that improved the time to retrieve error stacktraces by over 300%, making allowing senior engineers to spend significantly less time locating bugs.
- Implemented a queue-based flush system for stacktraces, intelligently managing storage space by retaining only the 50 most recent events. This optimized approach ensures real-time updates and efficient utilization of resources.

Software Engineer Intern - *Healthcare Systems R&A* *Sept 2021 - Dec 2021*
- Directed a cross-functional team of 11 members in the development of a mobile machine learning app using **Flutter, Python,** and **Firebase**, to a release 4 months ahead of schedule.
- Implemented a real-time self-improving neural network predicting blood pressure up to 3 days in advance, enhancing patient monitoring accuracy by over 40% and received positive feedback from healthcare professionals.

Software Developer - *University Of Waterloo* *Jan 2021 - Apr 2022*
- Developed an Android app in **Java** to ensure the safety of elderly users by controlling sensors around a rollator and enabling the control of an intelligent hand brake via IoT devices and Bluetooth Low Energy.
- Created engaging and dynamic physics animations using the Manim library in **Python** to enhance student understanding and visualization of complex physics concepts.

PROJECTS

SaveArtsakh
- Programmed a website that provides a concise way to view the most relevant news updated daily about the Artsakh war along with a livestream of tweets using **React, Python, Next.JS,** and **TypeScript.**

Labyrinth RTOS
- Built a preemptive EDF scheduling **RTOS** in **C** and ARM assembly for a LPC1768 (Cortex-M3), programming interrupt handlers and multi-threaded/task handling to increase CPU utilization and prevent race conditions.
- Debugged RTOS using Keil uVision debugger, analyzing ARM assembly instructions and register information.