Andrew Lin

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Education

University of Waterloo **Sept. 2020 – 2025**
Candidate for Bachelor of Computer Science *Waterloo, Ontario*

Technical Skills

Languages: C, C++, C#.NET, Java, Python, HTML, CSS, JavaScript, Golang, Groovy
Technologies: Git, MongoDB, PostgreSQL, NuGet, Google Pub/Sub, Google BigQuery, Insomnia, Dbeaver
Frameworks/Libraries: React, Node.js, Express.js, Socket.io, Django, Moq, XUnit, MFC

Work Experience

Geotab **May 2023 – Aug. 2023**
Software Developer Intern *Oakville, Ontario*

- Integrated a new vehicle database in C#.NET and Entity Framework into Geotab's data ingestion service by writing functions to add, update, and delete from a CloudSQL database, resulting in over 50000+ added vehicles
- Modified data ingestion service to utilize new Google Protobuf message to send data to Google Pub/Sub, resulting in over 140M+ messages a day serializing and deserializing to the updated Google Protobuf message
- Refactored code to utilize Dependency Injection using C#.NET across vehicle data ingestion data flow to help facilitate the migration of the application from the VM environment to Kubernetes
- Developed enrollment and unenrollment message handlers in C#.NET to make API calls to facilitate vehicle enrollment and unenrollment processes
- Utilized XUnit, Moq and Fixtures to write unit tests in C#, resulting in increasing application test coverage by 5%

Rocscience **Sept. 2022 – Dec. 2022**
Software Developer Intern *Toronto, Ontario*

- Utilized C++, MFC, and Codejock to overhaul their product's 3D software interface, by implementing an updated ribbon bar, dropdown buttons, and an updated combobox, contributing to a successful product release
- Converted desktop application, file, and registry classes into NuGet Packages in C++, improving code maintainability and saving 10% of development time
- Wrote unit tests in C++ for NuGet Packages to test file manipulation classes, increasing test coverage by 15%
- Created and integrated Resource DLLs for MFC applications to facilitate the seamless sharing of resources such as PNGs and Icons, resulting in 2x increase of resource updates by eliminating possible bottlenecks during UI updates
- Documented 20+ frontend changes for all C++ applications, reducing time expenses of future UI updates by 50%

Monest **Dec. 2021 – May 2022**
Software Developer Intern *London, Ontario*

- Helped create a website using React and Django that displays social and environmental data for 30+ clothing brands and companies to help consumers make responsible purchasing decisions
- Implemented an email subscription feature using React and Django by saving emails into a PostgreSQL database
- Refactored code into multiple React components, improving code manageability and reusability
- Implemented additional REST API methods to query database information for pollution, worker exploitation, and diversity data for clothing brands

OpenText **Jan. 2022 – May 2022**
Software QA Automation Intern *Waterloo, Ontario*

- Developed automated tests and wrote 30+ tests to test REST APIs using Jmeter, and Groovy scripts to facilitate API response, performance, and load testing for OpenText's Remote Access Software
- Developed a TCP and UDP Client/Server console application using Golang and C#.Net for performance statistics
- Created a Golang console application that displays Windows performance counters like RAM, CPU, and disk usage for performance statistics baselines and testing

Projects

My-Chat-App | *React, Node.js, Express.js, Socket.io, MongoDB*

- Built a web-based chat application using the MERN stack that allows users to chat with other users privately
- Utilized Node.js, Express.js and MongoDB to build a REST API used to query chat information, and used Socket.io for websocket connections

ASCII Game Engine | *C++, Ncurses*

- Implemented a C++ game engine to support the creation of ASCII art video games that is able to handle sprite creation, collision handling and rebound physics
- Created the "Google Dinosaur Game" and the "Impossible Game" using the game engine