Alexander Shen

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EDUCATION

University of Waterloo   **September 2022 - May 2027**
Bachelor of Computer Science (Co-op)
Courses: Data Structures, Algorithms, Object-Oriented Programming, Software Engineering

EXPERIENCE

Amazon   May 2025 - August 2025
Software Engineer Intern   *Vancouver, British Columbia*
- Built auto-scaling solution for queue-based worker service using AWS CDK and TypeScript to dynamically scale worker instances based on thread utilization, reducing worker costs by 40%.
- Created multithreaded Python load testing scripts to simulate high API traffic and validate performance of auto-scaling strategies.
- Developed test workers using Java to test auto-scaling in deployment pipeline for regression testing.
- Researched and implemented optimal scaling strategy by analyzing CloudWatch metrics (thread utilization, queue size, message age) to identify optimal configuration.

Tesla   January 2025 - April 2025
Software QA Engineer Intern   *Austin, Texas*
- Developed 29 test scripts using Python and Selenium for 3 high priority features, reducing manual testing time.
- Designed test cases for an internal feature for our supply chain platform, achieving 100% requirement coverage.

Polaris Intelligence   September 2024 - December 2024
Software Engineer Intern   *Toronto, Ontario*
- Developed semantic search for surveys using JavaScript, PHP, and OpenAI to improve search accuracy.
- Implemented a user consent EULA form using JavaScript and PHP, enhancing data security and legal compliance.
- Replaced an outdated text editor dependency with Summernote and JavaScript to reduce security vulnerabilities.

Polaris Intelligence   January 2024 - May 2024
Software Engineer Intern   *Toronto, Ontario*
- Updated sidebar tabs and standardized modals using JavaScript and SCSS to create a modernized UI.
- Optimized test script performance using Python and Selenium, improving performance by 80% through the implementation of parallel execution utilizing multithreading in order to improve resource usage.
- Developed a web scraper that converts postal codes to addresses using fuzzy searching and Levenshtein distance in order to streamline postal code validation and improve overall data quality.

JANA Corporation   May 2023 - August 2023
QA Analyst Intern   *Aurora, Ontario*
- Automated testing process for the validation of probabilistic risk models using Selenium and Java by collecting risk calculation results displayed and comparing them to pre-calculated results on Excel.
- Created automation tests covering 40% of regression test cases using Selenium and Java to validate data import features, visual graph displays, and quality of life features.
- Collaborated with stakeholders to create decimal precision standards of pipeline risk calculations to optimize UI readability and result accuracy.

PROJECTS

BobaShare ⊙ ↗ | BobaTalks Hackathon Winner | *JavaScript, MongoDB, Express, Node.js, React, AWS, Docker*
- Won 3rd place in BobaTalks Hackathon by creating an app to encourage gift-giving and charity using bubble tea.
- Developed semantic search with retrieval augmented generation using Pinecone, LangChain, and OpenAI.

Sip and Play Website ⊙ ↗ | Codedex 2024 Hackathon | *Next.js, Strapi, Tailwind CSS, Three.js, Vercel*
- Developed a website and CMS for the Sip and Play board game cafe using Next.js, Strapi, Tailwind CSS, Three.js and Vercel to showcase the cafe's board game collection, 3D menu, weekly events, and reservation opportunities.

TECHNICAL SKILLS

Languages: Typescript, JavaScript, Python, Java, C++, C, Go, SQL, Bash, PHP
Frameworks: Next.js, React, Node.js, Amazon Web Service (AWS), Google Cloud Platform (GCP), Docker, MongoDB, Firebase, PostgreSQL, Tailwind, Bootstrap, jQuery, Flask, Git, LangChain, OpenAI, Square API, GraphQL