

Nathanael Yao

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EXPERIENCE

General Dynamics Mission Systems–Canada

Ottawa, Ontario

Junior Software Engineer

July 2025 – Present

- Developed plugins for mission-critical applications using Java, Spring and government APIs.
- Automated software packaging workflows with PowerShell, improving user experience.

TELUS

Toronto, Ontario

Research Intern

May 2024 – December 2024

- Collaborated with TELUS engineers to develop an inline code documentation generation tool using GenAI.
- Used Tree-sitter and Python to parse and extract code elements, enabling support across multiple languages.
- Designed prompt templates using Jinja2, and used OpenAI and TELUS GenAI APIs to generate documentation.
- Integrated the tool into a GitLab CI/CD pipeline, automating documentation generation on merge request events.
- Presented work at the 25th IEEE International Conference on Source Code Analysis & Manipulation ([Publication](#)).

VisaPlace

Toronto, Ontario

Software Engineer

September 2021 – January 2023

- Developed a chatbot that evaluates immigration eligibility using the Botpress API, ReactJS and JavaScript.
- Created decision tables using the Gandalf API and AngularJS to score users based on their responses.
- Provided personalized feedback and product recommendations for high-scoring users on a results page.
- Integrated the chatbot with Salesforce, sending user data and querying records with SOQL.
- Built an agent-facing Salesforce widget using Lightning Web Components to enable human-in-the-loop support.
- Used Apex to dynamically display data for the current user in the background, streamlining agent workflows.
- Leveraged PHP, CSS, and JavaScript to build reusable and configurable Elementor Widgets for WordPress.

Mesh AI

Kingston, Ontario

Software Engineer Intern

March 2021 – August 2021

- Contributed to the development of a product for physician appointment scheduling using Vue.js and JavaScript.
- Built reusable frontend components and iterated designs based on feedback from regular meetings with physicians.
- Set up a GraphQL schema using AWS Amplify and AppSync, with authorization rules to enable team-based access control for provider availability, visits, and scheduling data.

EDUCATION

Queen's University

Kingston, Ontario

Master of Science, Computer Science, CGPA: 4.24/4.30

July 2025

- Research Assistant in the MASE Lab, working under the Kaloom–TELUS Industrial Research Chair in DevOps.
- Graduate teaching assistant for Software Requirements, Formal Methods and Programming Language Processors.

Queen's University

Kingston, Ontario

Bachelor of Computing, Honors, CGPA: 3.92/4.30

April 2023

- Education Director at Queen's Web Development Club and Junior Android Developer (Contract) at Betalab.

TECHNICAL SKILLS

Languages: Java, Python, C++, JavaScript, TypeScript, HTML/CSS, PHP, Apex, SQL, GraphQL, Bash

Frameworks & Libraries: Spring, Next.js, React Native, Angular, Vue.js, Lightning Web Components, OpenAI

Cloud & Storage: AWS Amplify, Amazon S3, Amazon RDS (PostgreSQL), AWS Appsync, Firebase

DevOps & Tools: GitLab CI/CD, Docker, PowerShell, RESTful APIs, Unix/Linux, TDD

Fluent in: English, French, Mandarin Chinese

PROJECTS

SEC Filings App | *React Native/Expo, TypeScript, SQLite, Cheerio, REST APIs*

[View Project](#)

- Developed a mobile app to visualize company financial trends and quarterly filings from institutions.
- Parsed and extracted data from the SEC EDGAR API and used SQLite for local storage to reduce API calls.
- Designed reusable components with React Native and TypeScript and published the app to the Play Store.