

# Michelle Wang

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## EDUCATION

### University of Waterloo

Bachelor of Applied Science in Systems Design Engineering (3.9/4.0 GPA)

Sep. 2022 – May 2027

Waterloo, ON

## TECHNICAL SKILLS

**Languages:** Python, TypeScript, JavaScript, SQL, C++, Java, Bash, YAML

**Tools:** AWS (S3, Lambda), Azure, GCP, Docker, Kubernetes, Git, GitHub Actions, Jira, Ollama, Linear, Plain, Slack, PostHog, Jest, pytest, ruff, Arduino IDE, MATLAB, Simulink, Circuit Simulator

**Technologies:** React, Vue, Next.js, Node.js, Flask, SQLAlchemy, Alembic, PostgreSQL, OpenSearch, Elasticsearch, BM25, Vector Search, Hybrid Retrieval, LLM Pipelines

## EXPERIENCE

### Software Engineer Intern

Interface | Python, TypeScript, React, Next.js, Flask, PostgreSQL, OpenSearch, Ollama

May 2026 – Aug. 2026

San Francisco, CA

- Architected the **core compliance intelligence platform** in Python/SQLAlchemy, defining the data model, document processing pipeline, and LLM extraction architecture to transform hours-long manual reviews into an automated, event-triggered background process
- Owned **search and retrieval infrastructure** across Postgres and OpenSearch, optimizing hybrid retrieval, vector embeddings, and local LLM inference to efficiently query thousands of multi-modal enterprise documents
- Built **support operations workflows** across Slack, Plain, Linear, and Interface, deploying AI agents to immediately triage and resolve 20+ daily production tickets for our flagship enterprise customer

### Software Engineer Intern

ResQ | Python, Django, TypeScript, Rust, React, Twilio, GraphQL

Jan. 2026 – May 2026

Toronto, ON

- Architected a **production-grade QA and triage framework** for an AI voice agent, enabling structured root-cause analysis and automated rerun tooling to support the successful onboarding of 50+ service vendors
- Hardened **production-critical voice infrastructure** by implementing websocket signature validation, deterministic fallback logic, and bounded recovery flows, enabling 100+ concurrent phone calls to run in parallel
- Engineered the **data contract and synchronization pipelines** between a Rust-based voice runtime and a Python/Django CRM to orchestrate end-to-end transcript handoffs, enabling customer teams to analyze call drops and engineering to debug agents faster
- Led the **full-stack development of receptionist guidance** into a structured, vendor-configurable model, allowing clients to intuitively customize AI behaviors across inbound SMS, email, and voice channels

### Software Engineer Intern

Private AI | Python, TypeScript, React, Next.js, Jest, SQL, Redis

Jan. 2025 – May 2025

Toronto, ON

- Implemented a **scalable, database-driven** system for license management, reducing license revocation time from days to under a minute and now supporting **5M+ API calls/month**
- Developed **asynchronous text processing** for de-identification of large datasets, **increasing throughput** and supporting **secure data handling** for enterprise clients
- Built a marketing web demo leveraging the internal component library; increased **test coverage to 90%**, reached **AA accessibility**, delivered **40% faster** first contentful paint, and **50% smaller bundle size**

### Software Developer Intern

YuJa | React, Java, TypeScript, Node.js, SQL

Sep. 2023 – Dec. 2023

Toronto, ON

- Developed a **React-based design tool** used by **150+ institutions**, allowing educators to customize course pages with templates and themes, **boosting user satisfaction by 2X**
- Led integration of the no-code design tool with major learning management systems, overcoming **cross-platform compatibility issues** to ensure seamless access for diverse educational institutions
- Architected a **full-stack web accessibility solution** with React and Java, automating **accessibility analysis** and improving **usability** for 100,000+ users across 4 learning management systems