William Shi *(US citizen)*

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github.com/wx02shi   in/wx02shi
wx02shi.github.io/website

EDUCATION

University of Waterloo
Honours Bachelor of Computer Science
Apr 2025 (expected)
GPA: 3.71/4.00
Coursework: Machine Learning, Algorithms, Operating Systems, Compilers, Data Structures, Networks, Databases, Statistics

SKILLS

Languages: C++, Python, JavaScript, TypeScript, Java, Rust, Dart, SQL, Bash, HTML, CSS
Technologies: React, Node, FastAPI, PyTorch, Spring, Flutter, MongoDB, PostgreSQL, Docker, k8s

EXPERIENCE

Super.com
Software Engineer Intern
Sep 2024 - present
Toronto, ON
- Building better payment experiences with the fintech products team!

Keplar.io
Machine Learning Engineer Intern
May 2024 - Aug 2024
San Francisco, CA
- Shipped new projects and features (**Node, Python, PostgreSQL**) for a B2B SaaS, innovating on **agentic AI + RAG**
- Trained **vision models**, built infra to support multimodal file formats, and implemented new video processing feature
- Introduced **statistics-driven experiments** to evaluate product performance against real-world data, providing actionable insights and leading to **5** pilot customers upgrading to full contracts based on demonstrated value
- Led **infra refactor** to support multiple LLM providers, and simplified type system to save **50** developer hours

Interac
Software Engineer Intern
Sep 2023 - Dec 2023
Toronto, ON
- Built Open Banking API (**Java, Spring, PostgreSQL, Docker, k8s**) to scale-test production systems to **70+** financial institutions
- Implemented security model using **OAuth 2.0**, OIDC and encryption, for Financial-grade API certification
- Designed granular **permissions mechanisms** according to RFC 9396; a drop-in upgrade for archaic OAuth scopes

Interac
Software Engineer Intern
Jan 2023 - Apr 2023
Toronto, ON
- Laid groundwork **ML and data infra**: architected cloud VMs for existing and upcoming data and ML workloads
- Migrated existing projects to stateless NLP microservices, reducing running costs by **20%**
- Engineered **data pipelines** to run traditional NLP methods (ex. TF-IDF) on **10TB** document corpus
- Created Outlook extension to detect email compliance breaches; outperformed InfoSec system in production by **47%**

WSIB Innovation Lab
Software Engineer Intern
May 2022 - Aug 2022
Waterloo, ON
- Built **automations** for **90%** of insurance claims processing, replacing human review and saving operating costs by **15%**
- Scaled mobile tech stack (**Flutter, Node, MongoDB, OpenAPI, Docker, k8s**) to serve **100k** customers
- Implemented security and customer single-sign-on (**OAuth 2.0, OIDC**)

Paperminds AI *(formerly Heka Health)*
Software Engineer Intern
May 2021 - Aug 2021
Montreal, QC
- Launched web app for early-stage startup using **NextJS, PostgreSQL**, fast-tracking launch by **one month**
- Shipped end-to-end **MVP** features like Stripe payments, Google Maps integration, appointments, and Auth0 security
- Incorporated traditional NLP techniques (TF-IDF) to **accelerate search** re-indexing (SBERT embeddings) by **20%**

ACTIVITIES

BitNet 🔗**:** Implemented Microsoft LLM optimization whitepaper: trained 100M model, wrote custom CUDA kernel

ZKML 🔗**:** Undergrad Research Assistant. Built experiments to benchmark zero knowledge proofs on neural networks

Urban Congestion Modeling 🔗**:** MacHacks 2022 winner. Tensorflow CNN predicting traffic congestion from birds-eye-view maps

Network Membership Protocol 🔗**:** Distributed systems. Built gossip protocol multicasting for node failure detection