/ kewbish
/ emilie-ma-kewbish

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Emilie Ma

Education

University of British Columbia, B.Sc. ◦ *09/2021 - expected 05/2026*

- Pursuing Honours Computer Science with a 4.33/4.33 (97%) GPA. On the Dean's Honour List.
- Recipient of Science Scholar, Trek Excellence, BC Women in Technology, and 10+ more scholarships totalling over $100K CAD.
- Vice President External at the Computer Science Student Society, managing industry partnerships and hosting career events.

Experience

Stripe Software Engineer Intern ◦ *05/2024 - 08/2024*

- Enabled host multi-tenancy for MongoDB databases by developing and deploying a Go binpacking algorithm across the fleet, reducing AWS costs by an estimated $450K/year and eliminating 200 days/year of cross-functional waiting time and ops toil.
- Refactored internal PostgreSQL infrastructure to use serializable transactions, avoiding expensive race condition errors.

UBC Systopia Undergraduate Research Assistant ◦ *01/2024 - 04/2024*

- Built a Rust library to support automatic conversion of formally verified specifications and models in TLA+ into Rust distributed systems. The library features easily modifiable generic types and supports lazy evaluation. Awarded 100/100 for my final report.

Cloudflare Software Engineer Intern ◦ *05/2023 - 08/2023*

- Implemented dashboard debugging features for Queues with Go, TypeScript, and React, supporting tens of thousands of operations per second. Feature usage tripled two-week retention for Queues users, with a conversion rate of 50%+.
- Performed safe and gradual service-wide migration in Kubernetes with Helm, Go, and PostgreSQL with 0 downtime.
- Led introduction of Cypress E2E tests, finding key regressions and increasing dev efficiency by eliminating manual processes.

UBC D-Lab Undergraduate Research Assistant ◦ *01/2023 - 04/2023*

- Applied graph theory algorithms to analyse GitHub PR-Issue collaboration graphs. Efficiently parsed 50K+ PRs and 100K+ links into Neo4j. Implemented a library of Python visualization scripts and Neo4j queries to provide results for research questions.
- Spoke at Open Source Summit North America 2024 and assisted with research paper revisions (appeared in FSE 2024).

Replit Software Engineer Intern ◦ *05/2022 - 08/2022*

- Ported browser IDE GitHub import flow to Nix, cutting loading time by 50% and making it twice as fast as leading competitors (GitHub Codespaces, CodeSandBox). Drove project end-to-end, from product design to usage analytics.
- Overhauled IDE Git plugin in React and TypeScript, decreasing support volumes 50%+ and addressing all open customer tickets.
- Implemented IDE visual configuration file editor, streamlining intuitive advanced feature discovery for power users.

Selected Awards

Schulich Leader Scholarship Recipient ◦ *2021*

- Canada's most prestigious STEM scholarship, awarded for excellence in entrepreneurship, leadership, and academics and valued at $80,000 CAD. Selected out of 1500+ nominees nationally, one of ten 2021 Leaders at UBC.

Google Code-in Grand Prize Winner ◦ *2020*

- Google's open source programming contest for teens. Selected as youngest winner ever out of 3.5K+ contestants.
- Made 60+ open source contributions, including Linux networking, embedded systems development, and CAD modelling tasks.

Technical Skills & Projects

Frontend Development (JS/TS, React.js, Next.js) ◦ Backend Development (Python, Go, Node.js, Java, Serverless & Distributed Architectures, Docker, Kubernetes) ◦ Unix/Linux Tooling ◦ Databases (Neo4j, MySQL, PostgreSQL) ◦ Misc. (C, C++, Grafana, Web3)

Disparati ◦ *Go, Distributed Systems, Networking*

- A collection of solutions to the Fly.io distributed systems challenges, including a linearalizable key-value store, globally unique UUID generation, and various conflict-free replicated datatypes (CRDTs). Written in Go with the Maelstrom framework.

Cobweb ◦ *React, TypeScript, Ethereum/Web3*

- A Chrome extension enabling Ethereum micropayment streams. Won 1st Place at the Superfluid Wave Pool #5 hackathon.

more at GitHub.com/kewbish ◦ https://kewbi.sh