

# Joey Yu

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## EDUCATION

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**McGill University**

*Bachelor of Arts in **Software Engineering and Statistics**.*

Montreal, QC, Canada

*Aug. 2021 – April 2024*

## PROGRAMMING SKILLS

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**Languages:** Python, Golang, TypeScript, JavaScript, Java, C, C++, Bash, Ocaml.

**Technologies:** gRPC, GraphQL, WebSocket, React, TailwindCSS, NestJS, FastAPI, Celery, Prisma, TypeORM, tRPC, SpringBoot, PostgreSQL, MongoDB, Redis, Docker, Git, Firebase, Linux, Figma.

**Interests:** Full-stack development, Cloud Computing, Microservices, Distributed Systems, and more!

## PROFESSIONAL EXPERIENCE

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**Ciena Corporation**

*Software Development Engineer Intern - Cloud Computing*

May 2022 – Present

- Coordinated with senior team members to analyze the performance weakness of the previous system and implemented a new solution that brought 2x-5x speed improvement to a core business logic.
- Designed a **graph searching** algorithm in **Golang** to share resource and latency information between nodes in a **distributed** network environment using **gRPC**, bringing a performance boost of 500%.
- Refactored a TOSCA YAML config parser in **Golang** and shortened the parsing speed by over 300%.
- Introduced **CI** pipeline with **Docker** and **GitLab Runner** to improve system stability.
- Investigated current dependencies in the codebase and re-engineered the **Make** build system to enable incremental updates and improve the build speed by 50%, providing a better developer experience.
- Applied **TDD** (test-driven development) concepts and improved code coverage by 30%.
- Worked in an **Agile** environment, provided weekly updates/demos to all team members.

## PROJECTS

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**AWS on Budget** | <https://github.com/awsonbudget> (*Open-source soon*)

Jan 2023 – Present

- Carried a team of 3 classmates to design and implement a **K8S**-like cloud management system.
- Designed a cluster control system that manages the nodes (**Docker** containers) in the cluster using the **Docker** Python SDK. It also monitors the status of each node and dispatches jobs to them in a fair manner based on client demand as well as availability. Written in **Python** with **FastAPI**.
- Designed a resource management system that manages all clusters and handles job requests from users. Also written in **Python** with **FastAPI**, and provided a **REST** interface for interactions.
- Implemented a CLI in **Golang** that manages the clusters, nodes, and jobs in the cloud system.
- Implemented a Dashboard in **React** with **TypeScript** and **TailwindCSS** that provides an overall view of system status in real-time with **WebSocket**, as well as the ability to inspect all execution logs.

**Radish Battle Pass** | <https://devpost.com/software/radish-battle-pass>

Feb 2023

- **Winner** of the Radish Challenge at McHacks 10 (2nd place)
- Collaborated with team members and designed a tier-based reward system for Radish (a food delivery startup) to improve customer engagement as well as user retention.
- Implemented the backend in **NestJS** and the frontend in **React** with **TailwindCSS** for styling.