

David Tan

dave.tan.work@gmail.com ❖ (519) 500 2208 ❖ Toronto, ON ❖ github.com/davecmd
www.linkedin.com/in/david-tan-cmd/

EDUCATION

University of Toronto

June 2024

Honours Bachelor of Science, Computer Science Specialist – Software Engineering,

3.42 / 4.0 CGPA

- **Relevant Courses:** Software Design, Software Engineering, Operating Systems, Algorithm Design and Analysis, Databases

WORK EXPERIENCE

Software Engineer Co-op

Sept 2021 – Aug 2022

(BlueCat, North York, ON)

- Used **Docker**, **Nomad**, **Consul**, **Ansible**, **Golang**, **Gitlab CI** to improve CICD and system diagnostics which led to the successful release of a new network service delivery platform
- Automated artifact cleanup by writing **Golang** scripts that used **AWS CLI**, saving **100+** hours of manual work
- Created and extended **RESTful APIs** in Golang and improved their Gitlab CI pipeline Automation
- Improved observability using **Telegraf** for metric collection, **InfluxDB** for time-series metrics, **Elasticsearch** for logs, enabling visual monitoring of user instances via **Grafana** dashboards saving debugging time by **5X**

PROJECT EXPERIENCE

The BluePrint

- Developed a collaborative whiteboarding tool to allow for real-time brainstorming, diagram creation, project management with drag-and-drop interface, and integrated video/audio call capabilities for remote teamwork
- Deployed on **AWS Lightsail** using **Docker** containers for scalable and efficient deployment
- Integrated YJS for real-time collaborative editing, Auth0 for secure user authentication/authorization, and PeerJS for group video/audio calls

Ampact

- Utilized **React**, **NodeJS**, **Express** and **MongoDB** to create an e-learning community platform
- Collaborated to implement multi-tier user authentication, a video learning catalog, direct messaging, project group creation, and a gradable assignment submission system
- Designed using Model View Controller pattern to ensure clear separation of concerns with **REST** endpoints

PintOS

- Recreated functionalities and extended a barebones OS in **C** to allow for loading of user programs, virtualization of memory and extending file systems
- Wrote a user program interface using system calls to allow the kernel to properly execute different programs
- Implemented thread priority scheduling and optimizing CPU time by fixing busy waiting, reducing **65%** cycles

Langchain Dictionary AI Agent

- Worked on a new **Langchain** agent tool integrating a Dictionary API, enabling **LLM** agents (artificial intelligence) to retrieve accurate definitions for standard and idiomatic expressions
- Built a robust API wrapper using Langchain's framework, and wrote integration tests to ensure reliability for edge cases and ambiguous queries

SKILLS & INTERESTS

Programming Languages: Python, C, C#, Java, Go, JavaScript, HTML/CSS, Ruby, SQL

Technologies: Git, Docker, GitLab CI, Nomad, Consul, Shell, Unity, Blender

Interests: Music, Guitar, Fitness, Video Games, Artificial Intelligence, Cryptocurrency, Investing