Mohammad Mahfooz

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Education

York University, Lassonde School of Engineering   Sept 2021 - May 2025

Spec. Hons. Bachelor of Engineering, Software Engineering   *Toronto*, ON

- **Relevant Coursework:** Software Design, Operating Systems, Computer Organization, Embedded Systems, Unix/C, DSA, OOP
- **Overall GPA:** 3.8/4.0

Experience

NVIDIA   Aug 2025 - Present

Software Engineer   *Santa Clara*, CA

- Incoming full-time Software Engineer at NVIDIA, returning to the team I interned with :)

York University   Jan 2025 - May 2025

Undergraduate Teaching Assistant   *Toronto*, ON

- Teaching assistant for **EECS1022** (Intro to Object Oriented Programming) and **EECS1520** (Computer Use: Fundamentals).
- Taught Object Oriented Programming basics with **Java** and **Eclipse**, and programming fundamentals with **Python**.
- Authored exercises and solutions, graded coursework and exams, provided feedback, and hosted labs and QA sessions.

NVIDIA   May 2024 - Sept 2024

Software Engineer Intern   *Santa Clara*, CA

- Developed a suite of tools to deploy hardware-agnostic **SLURM 22** clusters, enabling teams to test and iterate on emerging GPU/CPU/driver/OS configurations more efficiently.
- Designed and built a **GPU** tracing pipeline on **Kubernetes** and built supporting infrastructure to capture and analyze GPU/CPU/system performance metrics for **deep learning inference**.
- Developed **microservices** and infrastructure that interface with **SLURM** and other internal tools to classify **DL network topologies**, collect performance metrics, and streamline cluster management.

Canada Life   Jan 2024 - Apr 2024

Software Engineer Intern   *Toronto*, ON

- Developed a reference implementation for rapid microservice deployment on **AWS EKS**, utilizing **Spring** and **Kafka**, aiding in the transition from legacy monolithic services by reducing repetitive setup work for developers.
- Utilized **OAuth 2.0** for securing API calls, migrating from **Apigee APIM**, improving user security for 13,000,000+ clients.
- Implemented automated **GitLab** CI/CD pipelines for building, containerizing, and deploying microservices on **EKS**.

Ontario Teachers' Pension Plan   May 2023 - Dec 2023

Software Engineer Intern   *Toronto*, ON

- Migrated internal chatbot from **Azure** Cognitive Services to Azure OpenAI **GPT-4** and developed internal tools: execute **SQL** queries with natural language for a low-code environment; call transcription and insight extraction utilizing **Whisper** model on **Databricks** GPU cluster; Q&A with documents from vector embeddings, enhancing retrieval of relevant information.
- Designed application architecture with **Redis** cache for chat history storage and leveraged **Azure** Blob Storage with **Snowflake** for efficient data management improving response times by up to 200% for over 1300 employees.
- Deployed **HTTP/2 Flask** endpoints in **Azure Kubernetes** Service (AKS) for scalable container orchestration and implemented a streamlined CI/CD pipeline with **GitHub Actions**, **Jenkins**, and **AKS** to manage the chatbot.

Open Source Software

Individual Contributor

- Contributed patches to various **Linux** kernel drivers, improving stability with different hardware configurations. Reviewed and updated legacy code to incorporate the kernel coding style, helping make code more maintainable.
- Aided in porting **Solaar** (an open source device manager for Logitech devices) from Linux to macOS and Windows.

Technical Skills

Languages: Python, C, C++, Rust, Go, Java, C#, JavaScript, TypeScript, Bash, SQL

Tools and Frameworks: Linux, CMake, GDB, Valgrind, ASan, Docker, K8s, SLURM, CUDA, Git, BindFS, Ansible, Flask, Redis