







# Roa Brahimi

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## EDUCATION

### BSc in Computer Science, Mathematics and Statistics

09/2020 – 06/2024 | Toronto, ON

University of Toronto 

**Involvements:** International Scholar Award (\$180k), WiCS, Robotics Club, Women of MENA In Technology

## SKILLS

### Programming Skills

Python, Java, JavaScript, bash, SQL, C, Go

### Cloud and Distributed Computing

Docker, Kubernetes, Jenkins, Azure DevOps

### Web Technologies and Frameworks

Flask, HTML5, CSS3, Jinja2, Nginx

### Developer Tools

Git, Elasticsearch, Prometheus, Grafana, Digital Ocean, Kafka, Datadog's Vector

## PROFESSIONAL EXPERIENCE

### Ripple

05/2023 – 08/2023 | Toronto, ON

Infrastructure Platform Engineer Intern

- Designed and implemented the Vector operator using Datadog's Vector tool with Go, enhancing Ripple's application monitoring capabilities and elevating system efficiency by over 60%, ensuring streamlined diagnostics and analytical procedures.
- Developed and optimized VectorSource and VectorSink Custom Resource Definitions (CRDs) using Go, automating data extraction and pushing processes, achieving a 50% reduction in manual data handling, and fortifying data management protocols.
- Utilized Go to integrate Vector with Kafka for event streaming, paving the way for a 40% improvement in log emission processes, ensuring consistent and efficient data flow across distributed systems.
- Actively collaborated with a 10+ member engineering team, employing Git best practices with Go language contributions, resulting in over 50+ commits, 20+ pull requests, and realizing a 20% enhancement in code efficiency through meticulous code reviews and collaborative programming.

### Meta (Facebook), MLH Fellowship

06/2022 – 08/2022 | Toronto, ON

Software Engineering Intern - Production

- Built a Dockerized, scalable web app with Flask, Jinja2, and a MySQL database, deployed on a VPS with Nginx as a reverse proxy, and fulfilled project targets within 12 weeks
- Monitored CPU, memory, disk and network utilization with Digital Ocean, Prometheus and Grafana to achieve 99.9% server uptime
- Designed a CI/CD pipeline to automate deployment to production using GitHub Actions, Bash scripts, reporting test status in official communication and delivering a 90% reduction in maintenance time
- Reviewed an intensive curriculum with over 100 hours of mentorship from experienced Meta production engineers

### Equitable Bank

05/2022 – 08/2022 | Toronto, ON

Software Engineering Intern - DevOps & Cloud

- Developed and containerized a Kubernetes cluster to deploy, manage and scale 100s of microservices in AKS on Azure
- Structured a Graphical User Interface for process development initiatives to monitor and display digital banking logs using ML models via Elasticsearch dashboards, decreasing monitoring time by 30%
- Setup Jenkins build jobs, implementing fault-tolerant infrastructure guidelines and increasing average frequency of application releases by 10%

### CIRID

05/2021 – 08/2021 | Remote

Software Engineering Intern

- Redesigned several cross-platform UI components for new and updated site projects in two weeks utilizing HTML5, CSS3, JavaScript, and Responsive Design principles, leading to a 30% drop in site load time
- Recognized top-performing UI elements in a 2-member Design team through A/B testing in consultation with Product Marketing to maximize system efficiency, resulting in 5,000 more unique visits within a month

## PROJECTS

### Hospital Management System

OOP, Java, MySQL, JUnit, Git, SOLID

- Led a team of 8 engineers to devise optimal strategies and architect a reusable, SOLID-compliant, multi-hospital EMR system in Java, lowering triage errors by 28%
- Introduced a schema to access clinical terminologies contained in a MySQL database, improving data manipulation efficiency by 80% while serving a network of over 10k users
- Wrote a feature-level testing framework, regression and unit testing in JUnit with 100% code coverage

### Image Compression

C, Computer Vision

- Implemented a quadtree image compression algorithm in C, reducing file size while maintaining image quality
- Automated picture data storage and retrieval, minimizing time spent manually processing by up to 80%