Mohammadamin Baqershahi

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Education

University of British Columbia, *MASc in Electrical and Computer Engineering* - Vancouver, Canada *Sept 2023 – Present*

- GPA: 88.3/100
- Awards: BPOC Graduate Excellence Award, Graduate Support Initiative Award, International Tuition Award

University of Tehran, *BSc in Computer Engineering* - Tehran, Iran *Sept 2018 – Sept 2022*

- GPA: 18.34/20 (3.87/4)
- Awards: Ranked 6th among 99 Computer Engineering students, University of Tehran Supporter Foundation Scholarship, Ranked 171st in Iran's National University Entrance Exam (top 0.1%)

Skills

Programming: Go, Python, C++, C, Java, Rust, Bash, SQL, JavaScript, HTML, CSS
Technologies: Kubernetes, Knative, WebAssembly, OKD, Docker, Helm, Argo CD, Prometheus, Grafana, Jaeger, Git
Databases: MongoDB, Cassandra, MySQL, PostgreSQL, Redis, Neo4j
Frameworks and Libraries: Spring, React, PyTorch, TensorFlow, Scikit-Learn, Pandas, NumPy
Operating Systems: Linux, Windows

Experience

Graduate Research Assistant, University of British Columbia. Vancouver, Canada *Sept 2023 – Present*

- Supervisor: Prof. Mohammad Shahrad
- Designed and implemented a Kubernetes-based serverless system using language runtime isolation, achieving over 5X improvement in cluster-level resource efficiency with comparable performance.

Software Engineer, Snapp. Tehran, Iran *Sept 2021 – Jul 2023*

- Developed and deployed a large-scale Kubernetes-based service that uses map matching and geofencing to calculate driven distances and durations of trips from GPS data, processing over 4 million rides per day.
- Migrated and maintained a Kubernetes-based service that provides real-time trip ETAs and driver locations.
- Set up Jaeger tracing, Prometheus metrics collection, and monitoring dashboards to track performance and accuracy.
- Collaborated with cross-functional teams to improve services features, resulting in improved service accuracy.

Undergraduate Research Assistant, Monash University. Remote *Jun 2022 – Feb 2023*

- Supervisor: Prof. Adel Nadjaran Toosi
- Conducted research on context-aware Kubernetes scheduling to reduce resource contention and improve performance.
- Set up Prometheus-based metrics collection, enabling the Kubernetes scheduler to make real-time data-driven decisions.

Projects

Khatkesh, Snapp - (Go, Cassandra, Docker, Kubernetes, Prometheus) *2022*

- Developed and deployed a service to calculate driven distances and durations of trips based on GPS.

Distributed Peer-to-Peer File Sharing System, University of Tehran *2022*

- Developed a peer-to-peer file sharing system that enables nodes to communicate over Wi-Fi or Bluetooth.

Network DLP (Data Leakage Prevention) - (C++, C, CMake, OpenSSL) *2021*

- Contributed to building deep packet inspection tools to process SSL/TLS packets to prevent data leakages.

Compiler for Sophia Programming Language, University of Tehran *2021*

- Developed a complete compiler for an object-oriented programming language named Sophia.

Modified XV6 Operating System, University of Tehran - (C) *2021*

- Modified XV6 OS by adding new keyboard shortcuts, system calls, CPU scheduling, and synchronization features.

Languages

English: Fluent (TOEFL iBT Score: 106/120 [R: 28, L: 29, S: 22, W: 27] (Oct. 2022))
Persian: Native proficiency