Maizi Liao

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EDUCATION

University of Waterloo — Waterloo, Canada
Master of Applied Science in Computer Engineering — *May 2020 – June 2022*

University of Waterloo — Waterloo, Canada
Bachelor of Applied Science in Electrical and Computer Engineering — *September 2015 – April 2020*

EXPERIENCE

Huawei — Toronto, Canada
Software Engineer for R&D - Distributed Database — *February 2023 - Present*

- Designed and implemented several features for HTAP and CDC
- Refactored interfaces between the SQL engine and the storage engines
- Designed and implemented LOB storage optimized for sequential scan
- Investigated and fixed performance stability issue for regular table on multi-node
- Documented the design and the implementation of the cache invalidation mechanism

University of Waterloo — Waterloo, Canada
Research and Teaching Assistant — *May 2020 – June 2022*

- Conducted original research about the application of game theory on blockchains
- Proposed IRS, an incentive-compatible reward scheme for Algorand
- Improved the implementation of Malcolm, a cooperative load balancer at rack scale
- Designed the quizzes and tutored the labs of ECE350, a real-time operating system course

Sumo Logic — Redwood City, USA
Cloud Backend Engineer — *September 2019 - December 2019*

- Worked in the Security and Analysis team to build a platform for monitoring security related logs
- Developed a new feature to access external information about the logs
- Documented the design and the implementation of the new feature
- Gained working experience with Scala, Spring, Avro and OpenAPI

Rakuten — Tokyo, Japan
Software Engineer — *January 2019 - April 2019*

- Worked in the AI Platform Development team to build a platform for managing chatbots
- Developed and maintained backend APIs using JavaScript and TypeScript
- Leveraged Scala and Spark to provide KPI data of the platform and chatbots
- Implemented an ETL program in Go to process data for analytic usage
- Improved the performance of a history extraction microservice written in Python
- Gained working experience with Google Cloud Datastore, Kafka and ElasticSearch

Mespere LifeSciences — Waterloo, Canada
Software Engineer — *April 2016 - August 2018*

- Leaded the development of a patient monitoring software using C# and WPF
- Refactored the software to reduce code redundancy and improve performance
- Developed a prototype of the software on the Android platform using Java
- Ported the software to Raspberry Pi using Python
- Visualized and analyzed sensor data using NumPy and SciPy
- Modified the firmware of the sensor in C to meet new requirements
- Helped the hardware engineer to automate the production process

PUBLICATIONS

- IRS: An Incentive-compatible Reward Scheme for Algorand — AAMAS 2023
- Malcolm: Multi-agent Learning for Cooperative Load Management at Rack Scale — SIGMETRICS 2023

Awards

- Terminal Midwest Regional, 12th Place   March 2021
- Terminal CMU vs. UWaterloo, 4th Place   September 2020
- Richard and Elizabet Madter Graduate Entrance Award   May 2020
- Univerity of Waterloo President's Scholarship   September 2016