

Maizi Liao

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EDUCATION

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- **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

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- **Huawei** Markham, Canada
Software Engineer for R&D - Distributed Database February 2023 - Present
 - Worked in the Data Layer team to develop storage engines for efficient data storage and access
 - Designed a Multi-level Cache to accelerate analytic workloads
 - Added parquet support to the new all-in-one storage engine
 - 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 Elizabeth Madter Graduate Entrance Award May 2020
- University of Waterloo President's Scholarship September 2016