

CHUN-MING(Jimmy) LIN

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Education

University of Illinois at Urbana-Champaign (GPA: 3.6/4.0) Chicago, IL
Master of Engineering (M.Eng.) - Electrical and Computer Engineering Sep. 2021-Dec. 2022

- Coursework: Distributed Systems, Parallel Programming, Blockchains, Reliability of cloud-scale computing, Database System, Wireless Network

National Taiwan Ocean University (GPA: 3.6/4.0) Keelung, Taiwan
Bachelor of Science (B.S.) - Marine Engineering Sep. 2016-Jun. 2020

Technical Skills

- Languages: **Python**, Rust, MySQL, Solidity, React, Node.js, CUDA
- Developer Tools: Git, **Kubernetes**, Linux
- Frameworks: Docker, Redis, Neo4j, **AWS**
- Certificate: AWS Certified Cloud Practitioner, AWS Certified Solution Architect Associate – In Progress

Projects

CoruscantGraph-tracing ecosystem for span reliability inference | **Rust, Python** February 2022

- Accomplished modeling system reliability dependence in micro-scale by using tracing spans and subscribers
- Performed fault injection experiments on Raft protocol to analyze the dependence of system reliability in micro-scale
- Visualized the probability between each component using python

Chivago – A hotel management system | **React, Node.js, MySQL, AWS** December 2022

- Optimized database queries using MySQL triggers and procedures for enhanced query efficiency
- Implemented a RESTful API with CRUD functions using Node.js, integrated modules and validated interactions across modules through the use of observability tools
- Deployed and configured the project on AWS Elastic Beanstalk while incorporating observability principles

Bitcoin Client (Blockchain) | **Rust** February 2022

- Developed a Bitcoin Client with block mining (Proof of work), block propagation, and concurrent transaction processing capabilities
- Implemented the peer-to-peer network with gossip protocol to exchange data among blocks
- Ensured consistency and accomplished valid transactions among blocks through the use of observability tools (Prometheus) to monitor and troubleshoot issues

Raft in Python | **Python** September 2021

- Distributed a state machine across a cluster, ensuring that each node agrees with the same state transitions
- Implemented Leader Election, Log Replication, and Log Persistence to enhance fault tolerance in the cluster
- Troubleshoot concurrency issues in a simulated distributed system and reduced system fail rate from 0.1% to 0.01% through the use of observability tools

Distributed Key-Value Database | **Python** September 2021

- Implemented a distributed key-value database supporting simple SQL sentences for CRUD operations
- Implemented RAFT algorithm for leader election and log replication to achieve consensus among servers
- Ensured ACID properties through Two-Phase Lock and created a coordinator for Deadlock resolution, all while incorporating observability principles

CNN Inference Optimization | **CUDA** September 2021

- Demonstrated command of CUDA and designed optimized approach to be utilized on CNN
- Implemented the GPU optimization techniques, such as kernel fusion and tiled shared memory convolution
- Obtained practical experience in analyzing and fine-tuning CUDA kernels with profiling tools

Experience

Royal Van Oord Marine Ingenuity Changhua, Taiwan
Purchaser — Greater Changhua offshore wind farms project December 2020 - July 2021

- Developed, compiled sourcing prerequisites and ensured secure timely hand-over to the sourcing buyer
- Assured priority-based, on-time delivery based on open PO lines in the SAP system
- Designed and implemented an inventory tracking system among 12 vessels using Excel

Achievement

Undergrad achievement September 2016 - June 2020

- Academic Excellence Award