CHUN-MING LIN

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Education

University of Illinois at Urbana-Champaign — Chicago, IL
Master of Engineering (M.Eng.) - Electrical and Computer Engineering — December 2022
- Coursework: Distributed Systems, Parallel Programming, Blockchains, Reliability of cloud-scale computing

National Taiwan Ocean University — Keelung, Taiwan
Bachelor of Science (B.S.) - Marine Engineering — June 2020
- Coursework: Application of Micro-controller, Digital Integrated Circuit Design

Technical Skills

- Languages: Python, C, CUDA, Rust, SQL, JavaScript, HTML, CSS
- Developer Tools: VS Code, Arduino IDE, Nvidia Visual Profiler, Linux, macOS, Git, MySQL
- Technologies/Frameworks: GitHub, ANSYS, AutoCAD, SolidWorks

Projects

University of Illinois at Urbana-Champaign — Chicago, IL

Decentralized Trading Platform (Blockchain) | Solidity, JavaScript — February 2022
- Developed a decentralized exchange platform (DEX) to mint, manage, exchange synthetic assets
- Implemented smart contract to create, deposit, withdraw, swap and mint synthetic assets
- Integrated smart contacts with interacting web client and deployed on a public blockchain

Bitcoin Client (Blockchain) |Rust — February 2022
- Developed a Bitcoin Client that provides block mining (Proof of work), block propagation, concurrent transaction (account-based model) processing while ensuring consistency with Rust
- Implemented the peer-to-peer network with gossip protocol to exchange data among blocks
- Accomplished valid transactions among blocks by maintaining a state for the ledger

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 improve fault tolerance in the cluster
- Troubleshot concurrency issues in simulated distributed system, reduced system fail rate from 0.1% to 0.01%

Distributed Key-Value Database | Python — September 2021
- Supported simple SQL sentences to Create, Read, Update and Delete (CRUD) key-value pair
- Implemented RAFT algorithm for leader election and log replication to achieve consensus among servers
- Accomplished (ACID) by applying Two-Phase Lock and created a coordinator for Deadlock resolution

CNN Inference Optimization | CUDA, GPU, nvprof (Nvidia Profiler) — September 2021
- Demonstrated command of CUDA and optimization approaches by designing and implementing an optimized 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

LoRa Feather Communication Performance Analysis | Arduino IDE — September 2021
- RSSI measurement and performance analysis of LoRa radio communication between end nodes
- Performed underwater long-range communication using Adafruit Feather M0 RFM95 LoRa Radio
- Conducted configuration testing with the combinations of Spreading Factor, Bandwidth and Frequency

Experience

Royal Van Oord Marine Ingenuity — Changhua, Taiwan
Purchaser — Greater Changhua offshore wind farms project — December 2020 - July 2021
- Developed a sourcing plan: 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 a new inventory tracking system among 12 vessels using Excel

Achievement

Undergrad achievement — September 2016 - June 2020
- Academic Excellence Award
- Teaching assistant – Circuits and Electronics; responsible for lab design, project evaluation, lab grading
- Research assistant – Thermodynamic laboratory; responsible for testing components 3D printing