QINGNAN DUAN | RESUME

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Objective: NONE

Education

Tsinghua University | Computer Science and Technology | Bachelor's degree — 2014.8 – 2018.7
Distinguished graduate in the department of CST

Tsinghua University Economy (minor) — 2015.9 – 2018.7

University of Waterloo | Computer Science | Master's degree — 2018.7 – present
Supervisor：Bernard Wong Srinivasan Keshav | Consensus protocol / Blockchain
Expected graduation date: April, 2020

Project Experience

Gemini: Improving the Performance of Sharded Ledgers — 2018.10 – 2019.1

Sharding is a common technique in data management systems, which has recently been applied to distributed ledgers. OmniLedger is a recent work that uses sharding to improve its scalability. We introduce shard ownership scheduling and in-network state aggregation in order to achieve better performance in high cross-shard transaction rate and high contention workloads. Our simulation on Retwis workload shows that our system has 20X higher throughput.
Workshop paper submitted to HotOS 2019 (second author)

SuperFabric — 2019.1 – present

We are planning to extend FastFabric to further improve the throughput of Hyperledger Fabric.

Hyperledger Fabric Benchmarking with Non-deterministic Sending Rate — 2018.10 – 2018.12

Previous work uses workload with constant transaction arrival rates, which may be different from real life scenarios. According to Queueing theory, the interval between transactions follow a Poisson distribution. We modified a workload generator, Hyperledger Caliper to generated such workloads and tested the performance of Hyperledger Fabric.

Internship

SDE Intern, Microsoft WDGAE — 2017.6 – 2017.8

Mentor: Yi Zhou / Manager: Jing-Kane Li
Incorporates Windows 10 with SwiftKey, using asynchronous requests and local cache to fully utilize available network bandwidth.

Awards & Scholarships

Individual Scholarship Department of CST, Tsinghua University — 2015.10
Distinguished Graduate Department of CST, Tsinghua University — 2018.6
David R. Cheriton Scholarship Cheriton School of Computer Science, UWaterloo — 2018.10

Volunteer Experience

2018 Concours Mondial de Bruxelles, Sommelier — 2018.5