QinWen Ling

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EDUCATION

University of Illinois Urbana-Champaign **October 2022-December 2025**

B.S. in Stat and Computer Science | **GPA:** 3.97/4.0

TECHNICAL SKILLS

Programming Languages: Python,C , C++(familiar with **C++17**) ,Java,Golang
Operating Systems: Mac, Linux,Windows
DataBase: Mysql,Redis,Oracle
Container: Docker/Podman/K8s
Tools: Git,Netty, Nginx,Kafka,Perf,Gdb,gprof,Valgrind,Wireshark
lib: Pybind11, Numpy,Boost,Arrow
Knowledge: Low latency profiling, X86 architecture, Parallel Computing

PROFESSIONAL EXPERIENCE

JiaQi Investment ShangHai Low latency development intern **Summer 2024**

- Developed custom **data feed** solutions for low-latency parsing and log generation. Implemented specialized algorithms to reconstruct live-time **orderBook** for stock market.（Parsing data from **Parquet** format by **Arrow** with speed of 20 million orders per second ）
- Optimize multi-process machining learning sampler by **Pybind11** to support parallel computing and compiler optimization for **Numpy** array which has a **19 times** speed improvement. (Profilied by **viztracer** and **gprof**)
- Implement a high performance multi-threading file IO system driven by **io_uring** for trading system backend in simulation which has comparable performance with the benchmark test by **FIO**

Tiktok BeiJing Software Backend intern **Summer 2023**

- Responsible for maintaining the fund split system of tiktok which processing **80 million** sku orders per day (based on **GIN** framework).
- Redesign the financial order notification system which reduce **80%** daily cost to push the notification information with scale of 1 million per data and supporting configuration by inserting **Sql** record.
- Writting **Hadoop** script to generate financial reconciliation data.

PROJECTS

Distributed KV store system based on Raft and LevelDB, **2023**

- Implement core **Raft** functionalities such as leader election and log replication to guarantee system availability and data consistency.
- **Adopt Write-Ahead Logging** (**WAL**) to persistently store operational logs, preventing data loss and supporting **multi-version** control of data
- Implement **Log-Structured Merge** (**LSM**) **Tree** to persistently store operational logs which having an **asynchronous io multi-thread model** which support sequential writing with speed of **8000mb/s**

ACTIVITIES

Open Source Promotion Plan **summer 2023**

My work included implementing data exchange between edge and cloud for federated learning models. Additionally, I explored quantization like **ONNX** and compression techniques for edge inference models.