YANXIN XIANG

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EDUCATION

Master of Computer Engineering   Sep 2022 - Expected Mar 2024
Northwestern University

Bachelor of Computer Science   Sep 2018 - Jun 2022
University of Electronic Science and Technology of China

SKILLS

Language	C++, Rust, Python, Golang, Java, Node.js, Javascript
Skills	MySQL, PostgreSQL, Redis, MongoDB, SpringBoot, Django, Gin, Echo, gRpc,HTML,CSS
Familiar Database	MYSQL,PG,RocksDB,Cassandra,TiDB
Others	Git, Jenkins, AWS, Docker, Kubernetes, HDFS, Spark, TensorFlow, Pytorch, Numpy

EXPERIENCE

Software Engineer Intern   Apr 2023 - Sep 2023(Expected)
Tencent Database R&D Department   *Shenzhen, China*

- Working on the **SQL engine** team of **TDSQL**, the TPC-C test **ranked 1** distributed database.
- Helping to add **query compilation** part and using **LLVM** to add JIT support for SQL proxy. Use LLVM to create multiple operators such as scan and hash join. Helped increase **QPS** by **18%**.
- Replaced the embedded database of sql engine from **MYSQL** to **DuckDB**. Increasing TPS by **9%**.
- Refactored the logical optimization code of the SQL engine, allowing **30%** more sql to be pushed down to the database for execution and optimized the asynchronous thread logic of distributed transactions(xa transaction), increasing the running speed by **20%**
- Helping to add procedure feature for SQL engine, make it feasible for both single backend and distributed backend.

Software Engineer Intern   Apr 2022 - Aug 2022
Sunmi   *Shanghai, China*

- Making toB web service for managing business monitor and electronic price tag. Using **go-kit** to realize **gRPC** services. Adding distributed tracing **Jager** to 12 Programs and adding **Kong** gateway plugins to Making the service **30%** faster than original thrift and more reliable to locate errors
- Optimized the structure of **influxDB** to make it more compatible with device protocols, increasing the log speed by **6%**
- Making API for customers to choose and edit commercial advertisements to display on their devices. Also making functions for controlling remote devices via **MQTT** and **Kafka**. Helping the to arrange **2000000** ads on **100000** machines.

Software Engineer Intern   Jun 2020 - Jul 2020
Hwadee Information Technology   *Chengdu, China*

- Create a front-end web page with **React**, **HTML** and **CSS**. Using **SpringBoot** to write the back-end and using **RPC** structure to reduce **40%** processing time

PROJECTS

Relation Database Implement a completely tradition RDBMS including SQL parser,SQL optimizer(logical and physical), Storage layer(b+ tree), Transaction. (code)

KV storage engine Implement an LSM-tree based K-V storage layer, including WAL, memTable and SstTable which is alike LevelDB (code)

C Style Compiler Using **C++ pegtl library** to build a parser for programming languages, implement multi-level Compiler, with many modern Compiler optimizations. Translate C program language to IR,using LLVM to do optimization on IR and finally lead to an **X86 assembly** code that could run on Linux and Windows. (code)