

# Huaijin Hao

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## Education

**Harbin Institute of Technology, Shenzhen**

Master of Computer Science

Aug 2022 – Dec 2024 (Expected)

Shenzhen, China

**Shandong University of Science and Technology**

Bachelor Degree - Material

Sep 2018 – June 2022

Qingdao, China

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## Project

**CMU 15445 Database Systems**

Sep 2022 – Nov 2022

A standalone database that supports simple SQL operations developed based on C++


 [bustub](#)

- The BufferPool is designed based on LRU, and all page operations are performed on the BufferPool. Additionally, an extendible hash table is implemented in the Buffer Pool.
- The statement execution adopts a volcano model, supporting SELECT, DELETE, UPDATE, JOIN, AGGREGATION, LIMIT and DISTINCT operations. Join has two implementations: Nested Loop Join and Hash Join.
- Concurrency control adopts 2PL design, realizing three isolation levels: READ\_UNCOMMITTED, READ\_COMMITTED and REPEATABLE\_READ.
- Implement a global Lock Manager to manage R/W locks, and handle deadlocks based on the wound-wait algorithm in deadlock prevention.

**MIT 6.824 Distributed Systems**

Dec 2022 – Feb 2023

A Sharded KV database developed based on Go

 [6.824](#)

- Develop an implementation of the Raft protocol that supports essential functionalities, including leader election, log replication, and snapshot.
- Adopting the Multi-Raft architecture, it supports data sharding processing and shard migration.

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## Skills

**Programming Languages:** C++, Golang, Python and Java

**Tech Skills:** Key-Value Storage Systems, Database Systems and Distributed Systems