

# Xiaochen Cui

blog: [XiaochenCui's Blog](#)

github: [XiaochenCui](#)

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## EXPERIENCE

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- **Shanghai Magus Technology Co., Ltd.** - Chongqing, China

*Senior Software Engineer (Apr 2021 - Present)*

- **Vectorized Query Engine:** Designed and developed the vectorized query engine for LightningDB, which makes almost all kinds of queries become 20-100 times faster. (LightningDB is a column-oriented DBMS for online analytical processing.)  
Technologies used: SIMD, fine-tuned cache pool, Plan9 assembly, Golang
- Designed the structure of data files and index files for underlying storage, resulting in a 70% reduction in disk footprint and a nearly 3x increase in system IO speed.
- Built a CI system that reduced the number of bugs in the system by half and increased the speed of bug resolution by two.

- **Burnish Technology** - Chongqing, China

*Senior Software Engineer (2020)*

*Software Engineer (2019)*

*Junior Software Engineer (2018)*

- **High Performance Gateway:** Designed and developed the gateway for IoT packages, loads up to 20k PPS (package-per-second) for each container and up to 1 million PPS for the whole gateway cluster.  
Technologies used: epoll, Golang, pprof
- **Cloud-Native:** Built a complete cloud-native environment, reducing the time to deploy a cluster from three weeks to two days and the time required to release a new version from one week to one day.  
Technologies used: docker, kubernetes, prometheus, grafana, helm, consul
- Built and maintained a Alluxio cluster for data-analyze team, making them operated data more easily, and also doubles the speed of data processing.
- Done a lot of work for the automation of operations and maintenance.

- **Zhicheng Technology** - Chengdu, China

*Junior Software Engineer (2017)*

- Backend Development, Daily Operation, Recruitment, Management

## PROJECTS

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- **simple-db-java:** A simple relational database written based on mit6.830, which implemented buffer pool, write ahead log, transaction, roll-back, etc. Support underlying storage with heap format and b+ tree format.  
<https://github.com/XiaochenCui/simple-db-hw>
- **simple-db-rust:** A simple relational database written in rust, still under development.  
<https://github.com/XiaochenCui/simple-db-rust/>
- **distributed key-value storage:** A fault-tolerance key-value storage based on raft consensus algorithm.  
<https://github.com/XiaochenCui/mit6.824>

## EDUCATION

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- **Tiangong University** - Tianjin, China

*Bachelor of Software Engineering (2013 - 2017)*