Xiaochen Cui

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EXPERIENCE

- **Shanghai Magus Technology Co., Ltd.** - Chongqing, China
  Senior Software Engineer - Database Kernel (Apr 2021 - Present)

  - **Vectorized Query Engine**: Designed and developed the vectorized query engine for LightningDB, speed-up most SQL queries by 20 - 100 times. (LightningDB is a DBMS for online analytical processing.)
    Technologies used: SIMD, Golang
  - **SQL Optimizer and Planner**: Designed and developed the SQL optimizer and planner for LightningDB, reduced the complexity of query engine, and leverage the power of DSL to boost development speed.
  - Designed the structure of data files and index files for the underlying storage, resulting in a 70% reduction in disk footprint and a nearly 3x increase in system IO speed.

- **Burnish Technology** - Chongqing, China
  Senior Software Engineer - DevOps (2020)
  Software Engineer (2019)
  Junior Software Engineer (2018)

  - **High Performance Gateway**: Designed and developed the IoT gateway, which loads up to 1 million packages per second.
    Technologies used: epoll, Golang
  - **Cloud-Native**: Built a complete cloud-native environment, reducing the time to deploy a cluster from three weeks to two days, 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

SIDE PROJECTS

- **small-db**: A toy relational database, support various storage models, transaction models, and concurrency-control models. https://github.com/small-db/small-db
- **distributed key-value storage**: A fault-tolerance key-value storage, based on raft consensus algorithm. https://github.com/XiaochenCui/mit6.824

EDUCATION

- **Tianjin Polytechnic University** - Tianjin, China
  Bachelor of Software Engineering (2013 – 2017)