Xiaochen Cui

LinkedIn: <u>Xiaochen Cui — LinkedIn</u>
GitHub: <u>XiaochenCui</u>
Blog: <u>XiaochenCui's Blog</u>
Email: <u>jcnlcxc.new@gmail.com</u>

SUMMARY

Senior software engineer with fluent English and solid programming practice. Focused on database kernel and system programming.

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, which makes SQL queries 50-300 times faster than the original system. (LightningDB is a self-developed analytical database of the team.)
    - **SQL Optimizer and Planner**: Designed and developed SQL optimizer and planner for LightningDB, and developed a DSL (domain-specific language) for SQL optimization. Reduced the complexity of the SQL optimization module by 90%, reduced the complexity of the query engine by 60%, and solved 90% of the bugs in the legacy system, making SQL optimization faster than most databases on the market.
    - 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.
    - **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 an Alluxio cluster for the data-analyze team, making them operate 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 that supports 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

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