Jianxin Qiu

jianxin.qiu@outlook.com · imtsuki

Education

University of Toronto, Master of Engineering 01/2022 – Present

- Major: Electrical and Computer Engineering

Beijing University of Posts and Telecommunications, Bachelor's Degree 09/2017 – 06/2021

- Major: Data Science and Big Data Technology, *The Honors Class, School of Computer Science*
- GPA: 90.66/100 (Ranked 1 out of 63), Key Courses: OS (91), Compiler (95), Network (96), Database (92)
- TOEFL: 109 (30/R, 28/L, 23/S, 28/W), GRE: 328 (158/V, 170/Q, 3.5/AW)

Work Experience

ByteDance Inc., Beijing, China 06/2021 – 10/2021

(Lark Messenger Infrastructure) *Rust Engineer Intern*

- TBD

Alibaba Cloud, Hangzhou, China 07/2020 – 08/2020

(OLAP Database Group) *Database Engineer Intern*

- Developed Flink connector for ClickHouse, using optimizations like parallel direct shard writing, that outperforms the default JDBC connector by 100% in most common scenarios.

SmartX Inc., Beijing, China 09/2019 – 01/2020

(Distributed Storage Systems) *R&D Intern, C++*

- Improved the long task execution module, like backup storage parallelization, QoS and task status management.
- Implemented Hadoop-like command line tools for the NFS interface of the storage service.

Research & Academic Experience

Network and Big Data Technology R&D Center, Tsinghua University 02/2020 – 07/2020

(RISC-V TEE) *Research Intern*

- Implemented committed instruction flow collection based on RocketChip running on FireSim using Chisel.
- Analyzed memory allocation patterns of Tensorflow and Tensorflow Lite.

Cambridge Academic Development Seminar, U.K. 07/2018 – 08/2018

(Machine Learning) *Summer Exchange Program*

- Collaborated with others researching in machine learning applications and concerns.

Portfolios

xv7 https://github.com/imtsuki/xv7

Operating System implemented in Rust

- Implemented UEFI Bootloader, memory management and process management.
- Achieved memory safety in kernel with the help of Rust's safe abstractions and lifetimes.
- Made contributions to `rust-osdev`, an organization aiming at providing tools useful for OS development in Rust.

Hedgehog Lab, Core Collaborator https://github.com/Hedgehog-Computing/hedgehog-lab

Scientific Computing Environment Running in Browsers

- Supports most common matrix operations, accelerated by GPU using WebGL.
- Built-in TeX support, data visualization and symbolic computation.
- Received over 1,600 stars on GitHub.

Skills

- **Programming Languages**: not limited to any specific language, and experienced in Rust/C/C++, comfortable with Python/Scala/TypeScript/Assembly (in random order).
- **System**: familiar with operating system concepts and design, have experience in optimizing performance on kernel level using tools like `strace` and `blktrace`.
- **Distributed Systems**: taken course MIT 6.824, understand consensus algorithms like Raft and ZooKeeper, have experience in distributed system development.
- **Machine Learning**: familiar with general knowledge of machine learning.

- **Developing Tools**: experienced in Linux-based programming, have experience with team tools like Jira, Git, etc.

Miscellaneous

- Interests: computer systems and architecture, parallel computing, databases and cloud applications.
- Open-source Contributions: contributed to `@rust-analyzer`, `@rust-osdev`, `@jupyter`, `@pingcap`, etc.
- *Meritorious Winner* (Top 8%), Mathematical Contest In Modeling 2019