

Jiakun Fan

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EDUCATION

The Chinese University of Hong Kong Shenzhen

September 2020 – June 2024

BENG in Electrical and Computer Engineering

Rank: 45/137

Core Courses: Advanced Computer Architecture (in progress), Computer Architecture, Operating system, Algorithm Design & Analysis, Computer Networks, Software Engineering, Database System, Data Structure, Discrete Mathematics, Microprocessors & Computer Systems

University of Rochester

January 2023 – May 2023

Exchange Student

GPA: 3.85/4.0, Dean's List

Core Courses: Software Analysis & Improv, Computer Security Foundation , Parallel & Distributed System

PUBLICATION

Yuzhou Tong, **Jiakun Fan**, Xuhong Cai and Yi Chen (2023), “Rate Adaptation with Correlated Multi-Armed Bandits in 802.11 Systems” IEEE ICC 2023.

PROJECTS

Rate Adaptation with Correlated Multi-Armed Bandits in 802.11 Systems | *C, Python*

Summer 2023

- Leverage correlated multi-armed bandits to expedite determining suitable rates
- Modify the MAC80211 component of the Linux kernel to incorporate a multi-armed bandit algorithm
- Simulation and test-bed experiments are both carried out to evaluate performance

MVCC Software Transactional Memory | *Rust*

Spring 2023

- Implemented software transactional memory in Rust
- Support side-effect operations
- Employ multi-version concurrency control (MVCC) to enhance the performance of writes to transactional memory

File System Management via GPU's Memory | *CUDA*

Fall 2022

- Built a filesystem on GPU memory
- Support 1024kb large file
- Implement support for compact blocks to optimize memory utilization

5-Stage-Pipelined-CPU | *Verilog*

Fall 2021

- Implemented a Five-Stage Pipelined CPU via Verilog
- Use a forwarding module to avoid hazard like RBW (read before write)
- Add "shift" signal to support shift amount

EXTRA-CURRICULAR ACTIVITIES

Network Coding Lab | *Research Assistant*

2021 – Present

Maintain BATS code; Implement distributed storage system based on Shift-XOR codes

Computer Community | *Member*

2021 – Present

The community hosts a monthly computer science seminar covering programming, algorithms, and technical concepts

Mathematical Contest In Modeling 2021 | *Contestants*

Winter 2020

Won S award for innovative solution to “Re-optimizing Food Systems”

SKILLS

Languages: C, C++, CUDA, Java, Rust, Python, L^AT_EX, Markdown

Tools: Git/GitHub, Unix Shell, Nvim, Hadoop3, Docker, Valgrind