

Xinchen Jin

☎ (+86)198-2501-2981 | ✉ jinxch@shanghaitech.edu.cn | 🏠 nflsjxc.github.io | 📍 Shanghaitech University, Pudong, Shanghai, China

Education

Shanghaitech University

Shanghai, China

Undergraduate, Computer Science, School of Information Science and Technology

Sep. 2020 - Jun. 2024

- GRE: 327+4.0, TOEFL: 105
- Cumulative GPA: 3.82/4.0 (9/177) Major GPA: 3.98/4.0

University of California, Berkeley

Berkeley, California

GLOBE Exchange Program student

Jan. 2023 - May. 2023

- Courses: CS152/252A Computer Architecture and Engineering (A), CS161 Computer Security (A), CS267 Applications of Parallel Computers(A-)

Research Experience

Reflexive forwarding in Named-Data Network

HKUST(GZ)

Research assistant, instructed by Prof. Dirk Kutscher, The Hong Kong University of Science and Technology (Guangzhou)

July. 2023 - Sept. 2023

- Refined and implemented reflexive forwarding using ndn-cxx and NFD (C++)
- Extended the CCNx and NDN protocol to eliminate the problems when using independent Interest-Data exchanges for server-client communication
- Preserved the anonymity of the client when communicating with the server by keeping track of interests in the forwarder
- Set up a testbed in mini-NDN for experiments over multiple forwarders
- Proposed potential improvements for the extension
- Project page: <https://dirk-kutscher.info/irtf/reflexive-forwarding-ndn>

Computron: Serving Multiple Distributed Deep Learning Models on a Shared GPU Cluster

UC Berkeley

Group member, CS267 Application of parallel computers, UC Berkeley

Jan. 2023 - May. 2023

- Designed Computron, a system that uses memory swapping to serve multiple distributed models on a shared GPU cluster
- Implemented a model parallel swapping design that utilizes the CPU-GPU link bandwidth to speed up model parameter transfers
- Realized the function of serving many large models to handle different tasks
- Designed experiments and simulated workloads similar to real world scenarios
- arXiv Link: <https://arxiv.org/abs/2306.13835>

Python Software Debloat Analysis Project

ShanghaiTech University

Research assistant, instructed by Prof. Yutian Tang, ShanghaiTech University

Mar. 2022 - Aug. 2022

- Deployed call graph analysis on Python packages to debloat software, identifying unused packages
- Analyzed and visualized dependencies of Python packages based on call graph analysis results

Selected Course Projects

Athernet project

CS120 Computer Networks, ShanghaiTech University

Sep. 2022 - Jan. 2023

- Built a network from scratch, and implemented using the JUCE framework and C++
- Used audio as the media, with self-coded modulation and demodulation component
- Implemented high-efficiency system architecture like CSMA/CD that is compatible with current network protocols

CPU branch predictor building

CS152/252A Computer Architecture, UC Berkeley

Mar. 2023 - Apr. 2023

- Implemented classical branch predictors under Chipyard and improved design based on the given task
- Analyzed performance and potential improvements

An End-to-End Encrypted File Sharing System

CS161 Computer Security, UC Berkeley

Apr. 2023 - May. 2023

- Realized a file sharing system using Go language
- Designed the system architecture using encryption and segmenting techniques to ensure security and efficiency

Pintos course project

CS130 Operating System, ShanghaiTech University

Sep. 2022 - Jan. 2023

- Finished Stanford's Pintos project with C Language
- Implemented thread, syscall, virtual memory and file system part

People's willingness to donate blood: an ABM approach

MATH1114 Introduction to Stochastic Simulation Methods and its Application, ShanghaiTech University

Sep. 2022 - Jan. 2023

- Used ABM methods to investigate people's willingness to donate blood
- Wrote programs using Python Mesa package to simulate people and community's activity
- Refined assumptions of the original paper to better model real world blood donors

Awards and Honors

Dec.2021

Honorary Title: "Merit student" of ShanghaiTech Univerisity (3-7%)

Dec.2022

Honorary Title: "Outstanding student" of ShanghaiTech Univerisity (2%)

Activities

CS100 Introduction to programming

ShanghaiTech University

Teaching assistant, ShanghaiTech University

Mar. 2022 - Jun. 2022

- Prepared tutorial and recitation lessons to students about C/C++
- Answered students' questions on course forum

CS101 Algorithms and data structures

ShanghaiTech University

Teaching assistant, ShanghaiTech University

Sept. 2023 - Now

- Prepared tutorial and recitation lessons to students about algorithms and data structures
- Graded students' homework and quizzes

IT Operations on School Open Day

ShanghaiTech University

ShanghaiTech University

Dec. 2021

- Maintained examination hardware and software service
- Deployed and configured examination clients

Social pralice, Gansu, China

Gansu

ShanghaiTech University

Jul. 2021

- Researched the tourism industry and Chinese traditional medicinal materials plantation
- Conducted team report to assist local government upgrading local services

Industrial pralice, Zhejiang, China

Zhejiang

ShanghaiTech University

Aug. 2022

- Investigated enterprises and laboratories including LOCTEK and Yongjiang Lab
- Authored a report about applications of AI in industry

Skills

Programming languages and software Matlab, C/C++, Python, RISC-V, Go, L^AT_EX, Office

Tools and platforms Nginx, Kubernetes, Bash, Docker, Git

Languages Chinese(Native), English