Ziang Tian

ziangtian@whu.edu.cn +86 13669080399
Wuchang District, Wuhan City, China, 430072 Ziang Tian

EDUCATION

Bachelor of Computer Science at Wuhan University *09.2021 - 06.2025(Expected)*

- Third-year undergraduate student
- Average GPA: 3.96 / 4.00
- TOEFL: 111 (taken in May 2023)
- I am interested in system-related research and like to explore how computer system works. I am focusing on the dynamics of a secure memory system now and I am looking for Phd advisors.

PROJECT EXPERIENCE

Optimizing data writes in a secure memory system *Ongoing*

- Proposing a scheme to reduce write overhead for a secure memory system protected by Merkle Tree and counter mode encryption.
- Tools and Languages: gem5 simulator, Python, Cpp

A 5-level Pipelined RISC-V Processor Code *05.2023 - 07.2023*

- Implemented a 5-level pipelined CPU on an Artix-7 FPGA board (Nexys A7) in $\sim$ 3000 lines of Verilog
- Resolved data hazard and control hazard with forwarding and stalling
- (In Group)Implemented a sudoku game on the CPU
- Tools and Languages: Vivado, Verilog, C

Implementation of a dynamic memory allocator in xv6 operating system Code *04.2024*

- Researched on the structure of the xv6 operating system.
- Implemented a buddy allocator for the xv6 operating system using a self-devised bit-map tree.
- Tools and Languages: C

Introduction to memory optimization for AI model training Slides (In Chinese) *10.2023 - 12.2023*

- Read and presented 13 papers from 2016-2020 on the work of AI model training memory optimization.
- Categorized different works by their optimization methods.
- Read and researched on the source code of Pytorch concerning data dispatching.

Clustering of cells by means of bio sequence recognition *01.2024*

- Used VAE and K-means to cluster a large number of cells based on their RNA and atac sequence information.
- Tools and Languages: Python

Interests

- secure memory systems
- edge computing

Programming Skills

Python

Cpp

Latex

C

Javascript

Verilog

C#

Languages

Chinese (Native)

English (C1 and above Proficiency)

Spanish

CERTIFICATES

National Scholarship (top 1.5%) *10.2022*

National Scholarship (top 1.5%) *10.2023*

PROGRAM EXPERIENCES

Blended Learning Massachusetts Institute of Technology online *07.2022-08.2022*

- Taken enriching lectures and talks given by MIT professors and scholars on computer science fields.
- Broadened horizons and helped make exploratory academic decisions
- Only 100 participants selected within mainland China

Artificial Intelligence iLearning Cambridge University *07.2023-08.2023*

- Taken a course in computational neural science
- Simulated a neural network by modelling neurons

Interests

- secure memory systems
- edge computing

Programming Skills

Python

Cpp

Latex

C

Javascript

Verilog

C#

Languages

Chinese (Native)

English (C1 and above Proficiency)

Spanish