

Tongzhou Gu

📞 (Hidden) | ✉️ gutongzhou_AT_gmail_DOT_com | 🌐 nekodaemon.com | 🔄 Tonny-Gu

Education

Southern University of Science and Technology

Bachelor in Computer Science and Engineering

Sep. 2018 – Jun. 2022

Shenzhen, China

- **Overall GPA:** 3.59/4.0
- **Advisor:** Prof. Zhuozhao Li

King Abdullah University of Science and Technology

M.S./Ph.D. Track in Computer Science

Sep. 2022 – TBD

Jeddah, Saudi Arabia

- **Advisor:** Prof. Marco Canini

Research Interests

HPC / Embedded Systems, Programmable Network, Systems for ML

- Currently I am interested in accelerating large-scale ML training with comprehensive approaches including compiler-based optimization, topology-aware scheduling, and hardware offloading (GPU / Networks / FPGA)

Internship Experience

SANDS Lab, King Abdullah University of Science and Technology

Visiting Student

Jan. 2022 – Jun. 2022

Remote

- Accelerate large-scale machine learning with SmartNIC Offload and sparse collective communication
- **Advisor:** Prof. Marco Canini

Amazon Web Services Shanghai AI Lab

Software Development Engineer Intern

Jul. 2021 – Jun. 2022

Shanghai, China / Remote

- Design and implement distributed sharding system on a next generation deep learning framework based on TVM Machine Learning Compiler with MXNet Team members

Student Cluster Competitions

ISC 2022 Student Cluster Competition

Online 3rd Place (Student Advisor¹)

May. 2022

Remote

ASC22 Student Supercomputer Challenge

(Team Captain) (Ongoing²)

May. 2022

Hefei, China

SC21 Student Cluster Competition

3rd Place, Highest HPCG, Highest Linpack Benchmark Winner (Team Captain)

Nov. 2021

Remote

2021 APAC HPC-AI Competition

1st Place, AI Special Prize (Team Member)

Nov. 2021

Remote

ASC20-21 Student Supercomputer Challenge

1st Prize, 5th Place (Team Member)

May. 2021

Shenzhen, China

SC20 Student Cluster Competition

18th Place (Team Member)

Nov. 2020

Remote

2020 APAC HPC-AI Competition

3rd Place (Team Member)

Nov. 2020

Remote

ASC19 Student Supercomputer Challenge

2nd Prize (Team Captain)

Mar. 2019

Remote

Other Honor & Awards

SUSTech Outstanding Graduate

Department Level

May. 2022

SUSTech Outstanding Student Scholarship

2nd Prize

Nov. 2021

Selected Projects

MALLOC (Memory Allocation Leakage Live Observer and Capturer)

May. 2021

- A monitor tracing memory allocation and accessing behavior of a program without the requirement of root permission through exploiting Memory Page-Level Protection and Runtime Interposition to hijack GNU C Library, override memory allocation algorithm, and capture realtime memory accesses in user space
- **Course:** CS302 Operating System

DNS (Data in Naked DNS)

Dec. 2019

- An implementation of VPN over DNS tunneling
- **Course:** CS305 Computer Networking

Other Experience

Teaching Assistant

Dept. of Computer Science and Engineering, SUSTech

Jan. 2021 – Jun. 2021

Student Assistant

Center for Computational Science and Engineering, SUSTech

Jul. 2020 – Jan. 2021

Peer Tutor

Learning Center, SUSTech

Oct. 2019 – Dec. 2019

Participant

OpenACC GPU Application Hackathon 2019

Aug. 2019

Shenzhen, China

Participant

NUS SOC Summer Workshop 2019

Jul. 2019 – Aug. 2019

Singapore

Skills

English : IELTS 6.5 pts (Listening: 6, Reading: 7.5, Writing: 6, Speaking: 5.5)

Programming Languages : Python, C/C++

Frameworks : TVM, CUDA, MPI, OpenMP

Others : Linux Operations and Maintenance

¹An external team member providing technical support.

²The on-site finals has been indefinitely delayed due to covid.

³Last updated on June 1, 2022.