

# 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. Program in Computer Science*

Sep. 2022 – TBD

Jeddah, Saudi Arabia

- **Advisor:** Prof. Marco Canini

## Research Interests

### High-Performance Networking and Computing, Embedded Systems, ML Systems

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

## 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 Advisor<sup>1</sup>)*

May. 2022

Remote

### ASC22 Student Supercomputer Challenge

*1st Prize, (Former Team Captain<sup>2</sup>, Student Advisor)*

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, SUSTech

### DNS (Data in Naked DNS)

Dec. 2019

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

## 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

---

**Spoken Languages :** English (Working Language), Chinese (Native)

**Programming Languages :** Python, Modern C/C++

**Frameworks :** Verbs, TVM, CUDA, MPI, OpenMP

**Others :** Linux Server Operations and Maintenance

---

<sup>1</sup>An external team member providing technical support.

<sup>2</sup>The on-site final has been postponed and will be held after my graduation.

<sup>3</sup>Last updated on October 3, 2022.