

Boyu Tian (田博宇)

E-mail: tby20@mails.tsinghua.edu.cn **Homepage:** <https://criust.github.io> **Telephone:** +86-15389218086

EDUCATION

Tsinghua University

Sep. 2020 - Present

Institute for Interdisciplinary Information Sciences(IIS)

Ph.D. student in Computer Science, advised by Prof. Mingyu Gao.

Shanghai Jiao Tong University

Sep. 2016 - Jun. 2020

ACM Honors Class, Zhiyuan College

B.Eng. in Computer Science, advised by Prof. Chao Li.

RESEARCH INTERESTS

Efficient memory architectures and scalable data processing, especially the architectures that follow the Near-Data Processing paradigm.

PUBLICATIONS

Boyu Tian, Qihang Chen, and Mingyu Gao. ABNDP: Co-optimizing Data Access and Load Balance in Near-Data Processing. In *ASPLOS*, 2023. (CCF-A).

Qihang Chen, **Boyu Tian**, and Mingyu Gao. FINGERS: Exploiting Fine-Grained Parallelism in Graph Mining Accelerators. In *ASPLOS*, 2022. (CCF-A).

Bohan Zhao, Xiang Li, **Boyu Tian**, Zhiyu Mei, and Wenfei Wu. DHS: Adaptive Memory Layout Organization of Sketch Slots for Fast and Accurate Data Stream Processing. In *KDD*, 2021. (CCF-A)

EXPERIENCES

SAIL Lab, Shanghai Jiao Tong University

Jul. 2018 - Jun. 2020

Research Intern, advised by Prof. Chao Li

Shanghai, China

- Explored the idea of approximate graph computing. Developed a system to control approximation according to user-defined QoS requirements. Submitted to ASPLOS student research competition.
- Presented a graph representation of both hardware resources in the cloud and inter-dependent microservice-based applications. Proposed an efficient microservice deployment scheme using sub-graph matching algorithms and a runtime resource adjustment scheme based on the graph abstraction.

Turing Department, Huawei Hisilicon

Oct. 2019 - Dec. 2019

Research Intern, supervised by Dr. Heng Liao and Dr. Lin Li

Shanghai, China

- Developed algorithms for 3D view synthesis from sparse input images. Based on existing synthesis systems, modified the rendering path generation to adapt it for light field rendering in the 3D scenario.

CEI Lab, Duke University

Jul. 2019 - Sep. 2019

Research Intern, advised by Prof. Yiran Chen

North Carolina, U.S.

- Explored the idea of accelerating graph processing workloads using ReRAM-based Processing-in-Memory paradigm.

HONORS AND AWARDS

ASPLOS 2023 Student Travel Award	2023
Comprehensive Excellence Scholarship of Tsinghua University	2021, 2022
Tang Lixin Scholarship	2018-2020
Outstanding Leader Scholarship of Zhiyuan College	2017
Zhiyuan Honorary Scholarship	2016-2019

TEACHING

Teaching Assistant	<i>20470084 Computer Architecture</i>
<i>Spring 2021, Spring 2022</i>	<i>Tsinghua University</i>

- Worked as the teaching assistant of Computer Architecture taught by Prof. Mingyu Gao, targeting undergraduate students in Yao Class and Artificial Intelligence Class in IIIS. Designed and developed the course project, which is a computer architecture simulator for RISC-V.

Teaching Assistant	<i>C++ Programming</i>
<i>Fall 2017</i>	<i>Shanghai Jiao Tong University</i>

- Worked as the teaching assistant of C++ Programming taught by Prof. Huiyu Weng for students in ACM Class. Designed exam questions and algorithmic programming exercises.

TECHNICAL SKILLS

Programming Languages	C, C++, Python, Verilog, Java, Rust, Go
Hardware Simulation/Analysis	ZSim, Intel Pin, CACTI, Ripes