

ZITAN LIU

BASIC INFORMATION

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Github <https://github.com/libreliu/>

EXPERIENCE

Software Developer Intern, Radeon Technology Group, **AMD Shanghai** *Jul. 2022 - Nov. 2022*¹
Worked on Linux streaming PoC, issue triage on amdgpu & AMF. Read amdvlk code.

Master student, **University of Science and Technology of China** *Sep. 2021 - Present*
Studying computer graphics, mentored by Prof. Ligang Liu.

Technical Artist Intern, **Netease Games** *Sep. 2020 - Nov. 2020*
Wrote resource checking and model monitoring utility for the TA group.

Bachelor, **University of Science and Technology of China** *Sep. 2017 - Jun. 2021*
Major in Computer Science, TOEFL 103 (R:29, L:30, S:23, W:21)

AWARDS & PUBLICATIONS

Zitan Liu, Yikai Huang, and Ligang Liu. **ShaderPerFormer: Platform-independent Context-aware Shader Performance Predictor**. Proc. ACM Comput. Graph. Interact. Tech. 7, 1, Article 2. *2024*

Ziyu Zhang, **Zitan Liu**, Qingcai Jiang. et al. **RDMA-Based Apache Storm for High-Performance Stream Data Processing**. Int J Parallel Prog 49, 671–684 *2021*

1st place, **the 7th APAC Student RDMA Competition** *2019*

1st place, **ISC2020 Student Cluster Competition** *2020*

PROJECTS

Data-driven shader performance prediction ([Link](#), [Paper](#)) *Jan. 2023 - Jan. 2024*
A context-aware platform-independent shader performance predictor. Consists of a shader performance dataset, SPIR-V based shader instruction tracer, and a Transformer-based shader performance prediction network. Published in I3D'2024.

Reproduce Neural Radiance Caching in lighthouse2 ([Link](#)) *Feb. 2022 - Nov. 2022*
Neural Radiance Caching is a work by NVIDIA in SIGGRAPH 2021. Worked on implementing it in a wavefront path tracer called *lighthouse2*.

USTC Verilog OJ ([Link](#)) *Mar. 2020 - Present*
Platform for training of digital circuit design & testing, with 700+ users and 100000+ submissions. I'm the major contributor.

Computing cuts for high genus surfaces ([Link](#)) *Jan. 2021 - May. 2021*
Explorations on algorithms for calculating greedy homology basis on piecewise linear surfaces. Thesis for my bachelor degree.

IncludeOS ARMv8-A migration ([Link](#)) *Apr. 2019 - Feb. 2020*
IncludeOS is a Unikernel designed for C++ programming. I've finished an early stage ARMv8-A migration for IncludeOS with the help of my team members.

¹Duration for on-site internship

Apache Storm RDMA optimization ([Link](#))

Apr. 2019 - Oct. 2019

Apache Storm is an open-source distributed stream data processing system. As the member of the champion team in [the 7th APAC Student RDMA Competition](#), I've participated in the RDMA optimization of inter-worker communication in Apache Storm.

OpenLaserComm ([Link](#))

Oct. 2019 - Jan. 2020

This project aims to build a high-speed data link in free space lasers. I've implemented PS/PL DMA, 8b/10b encoder & decoder, clocking recovery and frame synchronization on two Zybo boards (with Zynq-7000 SoC) with the help of Mingjian Wang. The laser modem part is still under construction.

TECHNICAL STRENGTHS

Broad interest in CS and EE

I'm interested in all sorts of software, how they work and why they work well (or not). I've implemented a PXE recovery utility for our computer room, packaged software in Arch User Repository, spent time figuring out how Linux From Scratch works. I take courses ranging from Natural Language Processing to Quantum Computing. I'm also interested in amateur ham radio and I got my callsign **BG6HIB** in 2019.

Ability to handle complicated software system

I have worked with several large projects with insufficient documentation (>100k lines), in which I managed to find the proper place to code through trial and error. I am also becoming familiar with various profiling, debugging and building utilities in this process.

EXTRA-CURRICULAR

Co-organized [the 5th](#), [the 7th](#) and [the 9th USTC Hackergame](#).

2018, 2022

Speaker of [Software Freedom Day Activity in Hefei](#), talking about build systems.

2019

President of [USTC Students' Amateur Radio Club](#) (club callsign **BY6DX**).

2020 - 2022