Chaofan Lin

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Education

Shanghai Jiao Tong University, Shanghai, China Aug. 2020 – Present

Bachelor in Computer Science.

- A member of **ACM Honors Class**, an elite CS program in SJTU.
- **GPA:** 94.10 / 100 | **Ranking:** 1 / 33.
- **Selected Courses:** Compiler Design 100/100, Operating System 100/100, Machine Learning 97/100.

Research Interest

I am interested in designing computer systems and studying elegant mathematical theories. My research interest lies in Machine Learning Systems, DL Compilers and Programming Languages, specially in designing and optimizing intermediate representation (IR) for machine learning.

Experience

Catalyst, Carnegie Mellon University *Research Intern* 2022 – Present

Advised by Tianqi Chen.

- Working on Relax, which is the nextgen high-level IR of TVM. Committer of apache/tvm.
- Develop a training workflow for Relax, including registration mechanism of operator gradients and the automatic differentiation pass.

Honors and Awards

Scholarships

- National Scholarship. (*Top 0.2% national-wide.*) 2022
- Foresight-Sequoia Talent Development Fund. (*5 winners each year in SJTU.*) 2021
- Zhiyuan Undergraduate Excellence Award. *A-level, the highest.* 2021
- Zhiyuan Honorary Scholarship. 2020, 2021, 2022

Competitions

- The Chinese Mathematics Competitions (Shanghai Region). *First Prize.* 2022
- Mathematical Contest In Modeling and Interdisciplinary Contest In Modeling. *Meritorious Winner.* 2021

Selected Projects

Masterball *Course Project of Compiler Design* 2021

- A toy compiler implemented in Java, from Mx* (a C++ and Java-like language) to RISC-V assembly.
- With many optimizations in LLVM IR level, it has a performance close to GCC O2 on testcases.
- Implemented a interpreter of LLVM IR with simple Just-In-Time (JIT) technique supported.

Received a **perfect score** in two different compilation courses.

NightWizard *Course Project of Computer Architecture* 2021

A RISC-V CPU implemented in Verilog HDL, using Tomasulo algorithm for dynamic scheduling.

fscape *Course Project of Operating System* 2022

A game based on a simple self-implemented FUSE filesystem. Use 'cd' to move, find a specified file in the file system to escape from this file system maze.

TEACHING

Mathematical Logic, Shanghai Jiao Tong University Fall, 2022

Teaching Assistant With Prof. Qiang Yin and Yijia Chen

Programming Design (A), Shanghai Jiao Tong University Fall, 2021

Teaching Assistant With Prof. Huiyu Weng

SKILLS

- Programming Languages: Python, C/C++, Java, Verilog, Go, Rust, JavaScript, LaTeX
- English: CET-6 600, CET-4 661.