(+86)-183-0360-0387
lry89757@gmail.com

Runyu Lu

AI HPC Compiler

lry89757.github.io
Portfolio

Hope: Applying for a Ph.D. program in the field of **AI Compiler** in the United States.

Skills

AI	Familiar with training and deploying common CV Models
HPC	Have developed many high performance neural network operators
Compiler	Optimizing the backend LLVM and interested in the DL Compiler like TVM

Education

Bachelor of Computer Science Huazhong University of Science and Technology, GPA: **3.96/4.00** **Sept. 2020 — June 2024**

Academic Experience

WhiteFox, Fuzzing University of Illinois Urbana-Champaign **July. 2023 — Present**

- Role: Research Intern
- Mentor: Chenyuan Yang Jiawei Liu Lingming Zhang
- Responsible for the LLVM part of this project. Use LLMs to infer what kind of test inputs could trigger the optimization in the compiler based on the pattern written in the source code

Explore More Efficient PMA/PCSR Dynamic Graph Structure HUST **Nov. 2022 — June. 2023**

- Role: Research And Coding Mainstay, Mentor: Zhiyuan Shao, Hai Jin
- Based on the current dynamic graph storage formats of PMA/CSR, a more dynamic-graph-friendly data storage format is proposed, which involves modifications to the operating system kernel

Industrial Experience

Optimize the Backend of LLVM, Sensetime Company **April 2023 — Present**

- Role: LLVM Backend Developer, Mentor: Wenqiang Yin
- Optimize the llvm backend based on the Self-Develop TPU of Sensetime
- ISA just like NV PTX

Develop High Performance Neural Network Inference Engine, Tencent Company **July 2022 — Nov. 2022**

- Role: Top 15 committer of 253(util Nov.2022), Mentor: nihui, with 6k followers in Github
- Write and Optimize high performance operators and math library for ncnn, an open source project with **17.6k** stars in Github, mainly aligned with pytorch, for example GridSample : Given an input and a flow-field grid, computes the output using input values and pixel locations from grid.

Deploy High-FPS AI Models on Arm Chips, FiberHome Telecommunication Company **Dec 2021 — June 2022**

- Role: **Leader** , Mentor: Yayu Gao
- Team leader. Responsible for the whole process of calibration samples, selection, training network (lite-mspn/yolox) and deployment of high-performance Inference Networks on Arm CPU. Finally we perfectly met the high FPS demands of our clients.

Awards & Honors

Tencent Rhino-bird Open-source Training ProgramScholarship (2022), Like ”the ‘GSOC‘ of Tencent”

Huawei Intelligent Base Scholarship (2022)

Science and Technology Innovation Scholarship(2022), School of Computer Science and Technology, HUST

Academic Excellence Scholarship(2021 and 2020), School of Computer Science and Technology, HUST

More Info

For better reading experience and more detailed information, you’re welcome to visit lry89757.github.io :)