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Runyu Lu

AI HPC Compiler

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Portfolio

Hope: Looking for chances of **Summer Research Experience in USA onsite about ML Compiler** . I can cover the expenses myself, but any assistance in the form of a fund would be greatly appreciated.

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**

Industrial Experience

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 5.6k followers in Github
- Write and Optimize high performance operators and math library for ncnn, an open source project with nearly **17k** 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.

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

- Role: Intern, Mentor: Wenqiang Yin
- Write the llvm backend based on the Self-Develop TPU of Sensetime
- ISA just like NV PTX

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

- Role: **Leader** , Mentor: Yayu Gao
- As the project leader, I am 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.

Academic Experience

Explore More Efficient PMA/PCSR Dynamic Graph Structure **Nov. 2022 — Present**

- 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

Explore Backdoor Attack on Transformer Models **April. 2022 — Augu 2023**

- Role: Research And Coding Mainstay, Mentor: Kun He
- Research the model security of classic classification models such as ViT and DeiT, with a focus on black-box attacks.

Awards & Honors

Industrial

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

Huawei Intelligent Base Scholarship (2022)

Academic

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 :)