

Kunjun Li

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EDUCATION

National University of Singapore

Aug 2022 - Present

Bachelor of Engineering in Computer Engineering (Honours)

Cumulative GPA: 4.75 / 5.0

Research Interest: Efficient Deep Learning, High Performance Computing.

PUBLICATIONS

TinyFusion: Diffusion Transformers Learned Shallow

Gongfan Fang*, **Kunjun Li***, Xinyin Ma, Xinchao Wang

Arxiv 2412.01199

PixelGen: Rethinking Embedded Camera Systems for Mixed-Reality

Kunjun Li, Manoj Gulati, Dhairya Shah, Steven Waskito, Shantanu Chakrabarty, Ambuj Varshney

Proceedings of the 2024 ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN '24). **Best Demo Runner Up**.

PROFESSIONAL EXPERIENCE

NUS Learning and Vision Lab

Singapore

Undergraduate Research Assistant

07/2024 – 12/2024

Supervisor: Prof. Wang Xinchao

- Developed TinyFusion, a novel learnable depth pruning framework for Diffusion Transformers, achieving a 2× speedup with an FID score of 2.86.
- Generalized TinyFusion to various architectures, achieving significant computational efficiency while maintaining strong performance.
- Conducted extensive analysis on post-pruning recoverability in large-scale Diffusion Transformer models.

NUS-NCS Joint Laboratory for Cyber Security

Singapore

Undergraduate Research Assistant

07/2024 – 12/2024

Supervisor: Prof. Ambuj Varshney

- Proposed PixelGen, an innovative Embedded Camera System integrating Language Models and Diffusion Models, to generate High-Resolution RGB Images from monochrome images and sensor data.
- Paper Won Best Demo Runner Up at ACM/IEEE IPSN 2024 Conference.

PROJECT EXPERIENCE

Parallel Virus Scanning with CUDA

NUS

- Developed and optimized a CUDA parallel program with asynchronous kernel launches and memory transfers, achieving significant performance gains on NVIDIA A100 and H100 GPUs.

High-Performance RISC-V Processor Design

NUS

- Designed a pipelined RISC-V CPU in Verilog with dynamic branch prediction, hazard handling, and optimized matrix multiplication using the Karatsuba Algorithm.

More projects can be found at: [kunjun-li.github.io/projects](https://github.com/kunjun-li/projects)