Yan Wen

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EDUCATION

City University of Hong Kong, Hong Kong, China   Starting Sept 2026
Incoming Ph.D. Student in Computer Science
Advisor: Prof. Chenyuan Wu
Research Interest: Blockchain, MEV, AI

Fudan University, Shanghai, China   Aug 2021-Jul 2026 (expected)
Senior Student in Electronic Engineering, College of Future Information Technology
GPA: **91/100**

University of Birmingham, Birmingham, the UK   Jan 2025-Jun 2025
Official Spring-term Exchange Program, Department of Computer Science

RESEARCH EXPERIENCES

Multi-Agent MEV & Blockchain Infrastructure | Independent Researcher   Dec 2025 - Present
- Proposed a hierarchical multi-agent framework that automates the generation of profitable DeFi strategies by distilling knowledge from offline "Teacher" LLMs into lightweight "Student" models for real-time execution.
- Engineered a functional Bitcoin client implementation featuring P2P Gossip networking, Merkle Trees, and H256 hashing within a PoW consensus framework.

Mamba Token Merging | Visiting Researcher   Jan 2025 - May 2025
Advisors: Prof. Tao Chen (Fudan University) & Dr. Peng Ye (CUHK)
Contribution: Developed a sequential token reduction pipeline towards efficient Vision Mambas (ViMs): Bidirectional Nearest Neighbor Merging (BNNM) to minimize controllable perturbation, and Hidden State Protection (HSP) to stabilize hidden states.
- Implemented the visualized heatmap analysis comparison between hidden states and attention, concluding Limited Directional Sequential Dependence as the core information transmission mechanism.
- Derived the Online Compression Property, where hidden states progressively select and compress information through recurrent updates between adjacent states, based on the analysis of the dominant role of selective scan in Mamba.
- Proposed BNNM, which preserves spatial structure and introduces perturbations at predictable locations, thereby making them estimable and laying a solid foundation for further minimization in HSP.
- Proposed HSP to minimize the final hidden state loss, incorporating selective-aware token merging to compensate for removal loss and leveraging the self-convergence of loss, thus transforming the forgetfulness of Mamba into stability.
- Achieved state-of-the-art performance with minimal complexity: 1.0% accuracy drop for ViM-Ti (20% token reduction) and 1.4% for ViM-S (40% reduction).
- **First-author Manuscript**.

Diffusion Model Quantization | Research Assistant   Sept 2023-Nov 2024
Advisor: Prof. Tao Chen (Fudan University)
- Proposed an unsigned floating-point quantization scheme with zero-point bias to restore the representation ability of floating-point (FP) quantization based on visualized observation of activation-anomalous layers in quantized models.
- Implemented a router-based strategy to dynamically allocate LoRAs across timesteps based on exploration of multiple LoRAs' effectiveness in fine-tuning stage of post-training quantization (PTQ).
- Introduced an alignment strategy that exponentially rescales the MSE loss across denoising steps to better guide fine-tuning based on the observation that the original MSE loss curves fail to reflect the true impact of quantization on diffusion models.

- Achieved state-of-the-art performance in 4-bit floating-point quantization for diffusion models, surpassing existing 4-bit int-based & FP-based PTQ fine-tuning methods.
- **CVPR-2025 Accepted. (Fourth Author)**

Heterogeneous Knowledge Distillation | Research Assistant   Sept 2024-Nov 2024
Advisors: Prof. Tao Chen (Fudan University) & Dr. Peng Ye (CUHK)
Contribution: Developed the Multi-Level Decoupled Relational Knowledge Distillation (MLDR-KD) framework to transfer knowledge across heterogeneous architectures, where feature and logit distributions differ significantly.
- Utilized inter-class relationships (dark knowledge) to enhance student model learning in heterogeneous knowledge distillation.
- Proposed Decoupled Finegrained Relation Alignment, decoupling logits into class- and sample-wise relations, with extensive visualization analysis confirming superior dark knowledge transfer.
- Proposed Multi-Scale Dynamic Fusion Module, treating each student stage as an independent learner and using class tokens to dynamically balance stage-wise logit matching.
- **IEEE Transactions on Circuits and Systems for Video Technology submitted. (Fifth Author)**

Optical Quantum MIMO Channel Capacity | Researcher Assistant   May 2024-Jun 2024
Advisor: Prof. Xiaolin Zhou (Fudan University)
- Proposed the prototype of Optical Communication MIMO Channel under Poisson Sparse Noise Conditions.
- Used Reinforcement Learning (MADDPG) to find the optimal channel capacity conditions under different input signal scenarios.
- **Excellent Information Theory Honors Course Project Design.**

AWARDS

2025 The Grand Prize of the "Artificial Intelligence Field" Main Arena of the 2025 China Youth Science and Technology Innovation "Open Competition for Leading Talents" Arena Competition
2024 Second-Class Excellent Student in Fudan University
2023-2024 School of Information Science and Engineering "Outstanding Individual Award"
2022 Excellent Student in Fudan University (leadership) (<5%)
2019 34th Shanghai Youth Science and Technology Innovation Competition 2nd Prize (<1%, Shanghai area)

SKILLS AND OTHERS

Blockchain: Rust, Solidity, Reth, Revm
Computer: Python, Github, C, Origin, Xilinx, OrCAD, Microsoft office
Language: English (Fluent), Mandarin Chinese (Native), Shanghainese (Native)
Interests: Piano (Professional-level), Table Tennis