Jingming Liang (Brighton)

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EDUCATION

Nankai University, School of Computer Science **Tianjin, China**

B.Eng. Candidate in Computer Science and Technology, Minors: Finance and Criminal Law Sep. 2023 - Jun. 2027

- **Macau University** Exchange | Research Interests: ML Systems and AI Infrastructure
- Coursework: Advanced Programming, Data Structures, Computer Organization, Compiler Design, Operating Systems, Computer Networks, Computer Architecture, Machine Learning, Deep Learning.

RESEARCH EXPERIENCE

RaceRadar: An End-to-End iOS System for Aggregating and Prioritizing Competition Opportunities

App Store release in preparation Nov. 2025 - Present

- Built a fault-tolerant, multi-source ingestion pipeline that continuously crawls, cleans, deduplicates, and ranks competition announcements, publishing a unified JSON feed through scheduled GitHub Actions workflows.
- Developed a native iOS app in Swift/Xcode with card-based discovery, detailed opportunity pages, deadline-aware prioritization, source/category tagging, and shareable competition posters.
- Designed the system around real student workflows, translating automated data ingestion and ranking into a deployable user-facing information system for discovering higher-quality and time-sensitive opportunities.

Research on Adaptive Weight Selection for Image Diffusion Models

National 3rd Prize in Challenge Cup Apr. 2025 - Oct. 2025

- Extended the training-free object-style fusion framework (CVPR 2025 K-LoRA) by mathematically formulating and evaluating 8 distinct stage-aware scaling schedules across diffusion timesteps.
- Demonstrated through first-order derivative analysis and cross-domain experiments that a constant-derivative linear schedule optimally balances content fidelity and style consistency, effectively preventing structural distortion and visual jitter during the fusion process.
- Facilitated the end-to-end development of the project's interactive demo and drove its practical deployment for downstream generative applications.

GPU Optimization for All-Pairs Shortest Path

CCF-TCARCH 2025 National Champion Aug. 2025 - Sep. 2025

- Designed a memory-aware 3-stage blocked Floyd–Warshall pipeline to reduce bandwidth pressure in dense APSP computation, using shared memory to improve data locality.
- Optimized kernels via fusion, dual-streams, and double buffering and reduced synchronization overhead. Further compressed host-to-device transfer cost from $O(V^2)$ to $O(E)$ via custom I/O and device-side graph reconstruction.
- Ranked 1st nationally as an individual competitor, achieving a 52% end-to-end speedup on the official hidden datasets (11.50s → 5.42s) through profiling-driven optimization and systematic performance tuning.

SparseTSF-FFT: A Frequency-Domain Framework for Time Series Forecasting

Outstanding Term Project Sep. 2024 - Dec. 2024

- Reimplemented and extended SparseTSF from PyTorch to MindSpore, including custom API mappings and reconstruction of the training/evaluation pipeline for cross-framework deployment.
- Designed an FFT-based learnable filtering module to replace local sliding-window convolutions, aiming to better capture long-range periodic structure under a lightweight parameter budget.
- Conducted cross-framework profiling and forecasting evaluations, observing improved long-horizon performance (e.g., at 336 and 720 steps on ETTh1/ETTh2) relative to the baseline.

INTERNSHIP EXPERIENCE

Hejun Consulting **Tianjin, China**

Consulting Team Jul. 2025 - Sep. 2025

- Served a leading Tianjin listed water utility, supporting strategic modules including the Fifteenth Five-Year Plan, technical pathways, and Jing-Jin-Ji collaboration initiatives.
- Built evidence-ready research inputs by programmatically collecting and cleaning public disclosures (CNINFO, prospectuses, and official filings) for consulting workstreams.
- Independently delivered a 30,000+ word insight report covering PEST, SWOT, value-chain mapping, peer benchmarking, and actionable improvement recommendations.

ChinaSoft International **Tianjin, China**
LLM Team Jun. 2025 - Jul. 2025

- Built enterprise-ready LLM workflows using DeepSeek-based applications and LangChain integration for practical business scenarios.
- Engineered production-oriented AI services with PyTorch and FastAPI, including model tuning practices for vertical-domain performance.
- Delivered a deployable intelligent assistant system built on chatbot frameworks (Maibot and Astrbot), with knowledge-base QA, persona settings, automated deployment, and dialogue analytics.

Guotai Junan Securities **Remote**
Wealth Management Team Jun. 2024 - Jul. 2024

- Constructed IPS-based client planning workflows and applied the RRTTLLU constraint analysis framework for practical asset-allocation decisions.
- Completed an end-to-end personal finance case covering quantitative profiling, cross-asset allocation modeling, and benchmark comparison against market indices.
- Proposed dynamic rebalancing actions to improve return-risk balance while remaining aligned with long-term goals and client risk tolerance.

HONORS & AWARDS

- **Outstanding Student Leader**, Nankai University (for two consecutive academic years)
- **Second Place** in TRAE on Campus Vibe Coding Workshop
- **National Third Prize** in National College Student Computer System Ability Competition
- **Provincial First Prize** in China Undergraduate Mathematical Contest in Modeling (CUMCM)
- **National Champion** in 8th CCF-TCARCH Computer Architecture Challenge
- **National Third Prize** in 19th Challenge Cup National College Student Competition
- **Honorable Mention** in Mathematical Contest in Modeling (MCM)
- **Special Prize** in Pioneer Cup Intelligent Computing Design Competition

SCHOLARSHIPS

- **Academic Progress** Scholarship, Nankai University
- **Social Welfare** Scholarship, Nankai University
- **Student Service** Scholarship, Nankai University

EXTRACURRICULAR EXPERIENCE

Class Monitor & Youth League Branch Deputy Secretary - Nankai University
School of Computer Science Sep. 2023 - Present

- Led class management and Youth League activities, guiding the class to receive honors including Outstanding Youth League Branch and May Fourth Red-Flag Youth League Group.
- Received the university-level Outstanding Individual in Social Practice honor and contributed to a team recognized as an Outstanding Social Practice Team.
- Contributed 530+ hours of peer learning support, as well as 213.4 hours of volunteer service and 153 hours of social practice.

CS and AI Educational Outreach
Independent Educational Content Creation Aug. 2024 - Present

- Created structured study notes, learning resources, and course-oriented materials for student audiences in computer science and AI.
- Built a public-facing educational account with 5,500+ followers, 2.5M+ total views, and 131k+ likes and saves.

Teaching Assistant - Nankai University
Computer Hardware Fundamentals Sep. 2025 - Jan. 2026

- Teaching Assistant for Computer Hardware Fundamentals, supporting lectures, assignment evaluation, and student Q&A on core computer hardware concepts.

SKILLS AND INTERESTS

- **Technical Skills:** Microsoft Office, MATLAB, C++, Python, Excel, LATEX, SQL, Tableau, Swift/Xcode, PyTorch, MindSpore, FastAPI, LangChain, GitHub Actions, Data crawling and cleaning
- **Languages:** Chinese (Native), English (Fluent)
- **Interests:** Music, Marathon Running, Independent Travel, Violin, Guitar.