Mingjian(Norman) Li

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Education

New York University Jan 2024 – May 2026

- B.S. in Computer Science; Minor in Mathematics **GPA:** 3.98/4.0
- **Coursework:** Machine Learning, Operating System, Honors Numerical Analysis, Database, Probability and Statistics, Linear Algebra, ODE, Computer Architecture, Design and Analysis of Algorithm, Data Structure

Shanghai University of Finance and Economics Sep 2022 – Dec 2023

- B.A. in Accounting; Minor in Statistics **GPA:** 3.73/4.0

Experience

Software Engineer Intern, SeeM(useums)– Pittsburgh Dec 2024 – May 2025

- Developed a front-end application using React, Next.js, and Redux, featuring authentication, project management, and integration with an AI agent, deployed on AWS for scalable infrastructure.
- Contributed to back-end development by designing data schemas and setting up environments using Docker with Flask in Python, ensuring efficient, scalable, and consistent deployment.
- Implemented a 3D reconstruction pipeline based on 3D Gaussian splatting and SuGaR framework, supporting multiple data formats and enabling interactive front-end visualization with Three.js.

Research

Deep Learning based Accelerated MR Image Reconstruction Spe 2025 – Present

NYU (Mentor: Haoyang Pei)

- Conducting research on deep learning–based MR image reconstruction to accelerate scan times, evaluating multiple (CNN, UNet, Variational Networks, Diffusion Models) on the **FastMRI** dataset for high-quality reconstruction from undersampled k-space data.
- Refined PyTorch and CUDA implementations for **multi-GPU HPC**, enabling distributed training with synchronized gradient updates, resulting in a 4× speedup in performance and reconstruction fidelity.

4D Human Dance Reconstruction May 2025 – Present

NYU Video Lab (Advisor: Prof. Yao Wang)

- Developing a benchmark dataset of multiview, multiframe human dancer sequences with a full pipeline for data processing, 3D Gaussian construction, mesh reconstruction, and parameter tuning.
- Replicating and benchmarking 3D Gaussian methods (4DGS, Gaussian Surfel, SuGAR, MCMC), mesh reconstruction techniques (SDF, Poisson, Marching Cubes), and human body models (SMPL with OpenPose) to achieve high-quality, geometrically consistent, and robust pose reconstructions (PSNR > 35).

Projects

ML Systems Implementation Fall 2025

- **GPU Tensor Operators** — Implemented core tensor ops (elementwise, matmul, reduction, cross-entropy) in **CUDA/C++**, optimizing kernels on **NVIDIA T4** (**CUDA 12.8**) with full unit-test correctness.
- **MLP with Auto-Diff** — Built a Python-based deep learning system via **pybind11**; implemented **AGTensor** for dynamic graphs and backprop, training a 2-layer MLP on **MNIST** (97% accuracy).

SkyRoute: Full-Stack Airline Management System | Github Link Spring 2025

- Designed and implemented a normalized **MySQL** (3NF) database with complex relations and role-based access, deployed on **AWS RDS** for scalable multi-user access.
- Built RESTful APIs and backend logic using **Next.js App Router** with advanced SQL procedures and secure middleware authentication.
- Deployed a React frontend on **Vercel** with persistent **RDS** storage and automated CI/CD workflows for production-grade cloud deployment.

Skills

Tech: Python, C++, CUDA, Pytorch, R, MATLAB, JavaScript, React.js, Node.js, MongoDB, SQL

Analysis: Machine Learning, Math Modeling, Accounting principles, Economic and Financial Concepts