

LONGZHAO GONG

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Edge AI / Robotics / ML Systems

M.S. Computer Engineering candidate specializing in edge inference, GPU acceleration, robotics/IoT deployment, and performance-critical ML systems.

Built and validated systems across the stack, from C/CUDA/OpenMP compression kernels and distributed GNN training to Jetson TensorRT edge deployment, with reproducible benchmarks, correctness gates, and quantified latency/speedup results.

EDUCATION

Stevens Institute of Technology

M.S. in Computer Engineering, GPA: 3.94/4.00

Relevant Coursework: Embedded Systems, Machine Learning, CUDA Programming, Computer Architecture, Internet of Things

Hoboken, NJ

Sep 2024 - May 2026

Chang'an University

B.E. in Automation

Relevant Coursework: Automatic Control Theory, Digital Electronics, Analog Electronics

Xi'an, China

Aug 2016 - Jun 2020

TECHNICAL SKILLS

Programming: Python, C/C++, SQL, CUDA

Machine Learning / Deep Learning: PyTorch, Stable-Baselines3, RecurrentPPO, GNN, RL, Transformers, LSTM

Edge AI / Model Deployment: ONNX, TensorRT FP16, model conversion, low-latency inference

Robotics / Perception / IoT: DonkeyCar, LiDAR sectorization, camera, STM32, embedded control, sensor integration, IoT systems

GPU / Systems Optimization: CUDA kernels, shared memory, warp-level parallelism, OpenMP, SIMD

Tools & Cloud: Linux, Git, Docker

PROJECTS

Jetson Nano Edge TensorRT Deployment for DonkeyCar Robot, IntelliSys Lab

Jul 2025 - Apr 2026

- Led sim-to-real deployment for a DonkeyCar RL robot by unifying simulator and Jetson sensor/action interfaces, enabling consistent camera-LiDAR policy inference from training to edge execution.
- Engineered a semantic vision encoder that converted raw camera frames into task-relevant lane, edge, obstacle, and motion features for more stable DonkeyCar RL observations.
- Hardened the real-time Jetson runtime by deploying ONNX/TensorRT FP16 inference and decoupling blocking LiDAR preprocessing, cutting actor-stage p95 latency by 58.4% vs. PyTorch and shrinking DataCollector latency from 537 ms to 5.67 ms.

PeMS Spatiotemporal Traffic Forecasting with Graph Neural Networks

Mar 2025 - May 2025

- Built a reproducible PeMS GNN forecasting pipeline with anomaly-aware imputation, station graph construction, weather-aware features, and PyG GraphSAGE/NeighborSampler training.
- Scaled GraphSAGE with 2-GPU DDP workload sharding, achieving 1.43x speedup and validating a full-scale run over 33,177 timestamps, 4,883 stations, and 162M timestamp-station pairs.

Azure OpenAI Career Coach Recommendation Platform

Apr 2025 - May 2025

- Built a GPT-3.5 Turbo fine-tuned advising prototype that generated personalized course, academic-planning, and career-path recommendations from student goals and Stevens curriculum data; selected as a Top 25% Finalist at the Stevens IT Quackathon.

PROFESSIONAL EXPERIENCE

APECS Lab, Stevens Institute of Technology

Research Assistant

Hoboken, NJ

Aug 2025 - Dec 2025

- Owned the FalCom/APPFL model-update compression acceleration path across Python/C ABI integration, native C codec implementation, OpenMP/SIMD CPU optimization, and guarded CUDA q8 experimental codec.
- Reduced ResNet50 CPU compression latency from 797.62 ms to 211.36 ms on 8 threads (3.77x) by optimizing the native C codec with safe grouped OpenMP/SIMD.
- Achieved 9.37x CUDA compress-only / 10.8x closed-loop compress-decompress speedup under consistent profiling and correctness gates.

Project Engineer, Foshan Guanggong Renewable Resources Recycling Co., Ltd.

Dec 2022 - Mar 2024

- Supported factory-area energy storage deployment planning by translating site constraints, capacity requirements, and equipment interfaces into implementation inputs for system design review.

Research Assistant, School of Microelectronics, Xidian University

Aug 2020 - Oct 2022

- Integrated sensors and circuit-level embedded controls for high-speed train pneumatic test systems, supporting reliability-oriented data collection, actuator response testing, and control-loop validation.

HONORS & AWARDS

Outstanding Master Student Award in Computer Engineering (Top 10%)

May 2026

Finalist Award (Top 25%), Stevens IT Quackathon Competition

Apr 2025

Bronze Award, College Student Innovation & Entrepreneurship Competition

May 2020

First Prize (Top 10%), RoboMaster China Robot Contest

Sep 2019

LANGUAGES

Languages: Mandarin Chinese (native), English (fluent)