

Sin Liang Lee

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Education

Georgia Institute of Technology | Atlanta, Georgia

May 2028

BS Computer Science | Intelligence and Devices | 6x Hackathon Winner | Faculty Honors

GPA: 4.0

Coursework: Data Structures & Algorithms · Machine Learning · Systems & Networks · Perception & Robotics · Calculus

Technical Skills

Languages & Frameworks: Python, TypeScript, JavaScript, Java, SQL, C++, C, Bash, FastAPI, React, Django

Systems & Data: PostgreSQL, DuckDB, MySQL, Docker, AWS, Git, Linux, CI/CD, Pydantic, Pytest

ML & AI: PyTorch, TensorFlow, OpenCV, ONNX, OpenAI Agents SDK, RAG, LangChain, Hugging Face

Experience

ALSEA

July 2026 – September 2026

Lead Software Engineer

Kuala Lumpur, Malaysia

- Engineered an end-to-end **agentic Bill of Quantities (BQ) system**, transforming messy, parser-unfriendly Excel workbooks into hierarchical, classified construction-cost data with **100% financial reconciliation** across **\$148M**.
- Developed **multi-agent schema discovery** using OpenAI Agents SDK, deterministic validation, sandbox analysis, and adversarial review, cutting schema creation **from seven weeks to one overnight run**.
- Built a production stack with FastAPI, DuckDB, React and Docker, with parallel processing, human-in-the-loop review, immutable audits, and versioned pricing snapshots to preserve data integrity across concurrent workloads.
- Built a **natural-language cost intelligence engine** for executive teams, enabling cross-project benchmarking, historical price comparisons, cost projections, and anomaly detection while preserving source-data traceability.

Queen Mary Hospital

May 2026 – July 2026

Data Science Intern

Hong Kong

- Engineered a **volumetric segmentation pipeline** for MRI and CT images using OpenCV; the gesture-controlled computer-vision analyzer allowed touchless intraoperative review, reducing the need for manual image handling.
- Developed a PyTorch/OpenCV model to detect femoral malrotation during intramedullary nailing, supporting real-time intraoperative surgical decision-making.
- Architected a full-stack medical AI application involving **10,000+ patients** in an osteoporosis prevention study, integrating a RAG pipeline into a WhatsApp AI chatbot for DEXA scan intake, data entry, and analysis.

Systems Software & Security Lab (Georgia Tech)

October 2025 – Present

Undergraduate Researcher (Professor Taesoo Kim, Microsoft VP of Agentic Security)

Atlanta, USA

- Engineered an **LLM-driven security testing framework** using shallow bugs as coverage signals to explore deeper paths, with automated patching and evaluation across databases, networking tools, and bootloaders.
- Integrated ATLANTIS, an AI-driven vulnerability discovery system, into Docker-based CI/CD, using **call graphs** to trace callers and dependencies of changed functions, generate targeted fuzzing harnesses and compare **coverage of new or modified code** against existing harnesses.
- Identified **11 security vulnerabilities** under Open-Source Security Assessment initiative, including 5 **CVSS 8.0+**.

Byte In (Gamified AI Calorie Tracking Startup)

January 2025 – August 2025

Co-Founder, CTO

Kuala Lumpur, Malaysia

- Built a computer-vision ML pipeline with A/B testing, achieving **98% food-recognition accuracy (23% relative improvement** over baseline) and serving **1,000+ daily inferences**.
- Architected Python, Django and PostgreSQL APIs and a **PyTorch-to-ONNX** pipeline for training and low-latency model serving and deployed the production server in Docker on DigitalOcean.
- Secured **\$23K** in competitive grant funding from Cradle Fund under Malaysia's Ministry of Finance.

Publication

Hate Speech Detection in Algerian Dialect Using Deep Learning

Coauthor & Model Evaluation Task Lead | arXiv:2309.11611 | NAML workshop at NeurIPS 2023

Awards

HackMIT — OpenAI 5th Teammate Challenge

YHack — Institute of Foundational Models Winner

GitLab AI — Sustainable Design Bonus

Anthropic Claude AI — Third Place

HackGT 12 — MLH Best Use of Gemini API

Solana Hyperdrive — AI Track Third Place (\$15K)