Sean Lai

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EDUCATION

New York University — New York, NY
Bachelor of Science in Computer Science | GPA: 3.8/4.0 — *May 2027*
Awards: Manus AI Fellow (42/8000), Gunter Georgi Innovation Award (1/400), Dean's List

EXPERIENCE

Data Engineer Intern (AI) — Jun. 2025 – Aug. 2025
Boost Payment Solutions — *New York, NY*
- Built a human-verified data pipeline used by 45 users across 3 teams, shipping 15 user-driven releases in 2 months.
- Optimized alias engine (Python, AWS Lambda, EC2, RDS) to recover 99.2% of aliases missed by fuzzy matching.
- Improved FAISS recall precision from 60% to 99.5% by finetuning embedding models on alias resolution data
- Performed QLoRA on Phi-2 and TinyLlama for data ingestion copilot, processing 10000 internal requests daily

Research Engineering Lead — Jan. 2024 – Present
New York University High Speed Research Lab — *New York, NY*
- Improved Python open source package and documentation, reducing jitter by 20% and enabling websocket support
- Developed experimental pipeline demo with Python, YOLO, and JavaScript, for research experimentation product
- Built end to end UI overhaul with React enabling MCP access to create 3x speed workflows for experiments
- Redeveloped Unreal Engine 5 C++ plugin, increasing overall user base by 10% from existing labs and users

Undergraduate Research Fellow — Jun. 2024 – Sep. 2024
New York University — *New York, NY*
- Collaborated with Dr. Ingrid Paredes to implement sustainable engineering curriculum reaching 1000+ students
- Built word cloud and embedding NLP models to reduce processing times by 25% and influence faculty decisions
- Implemented sentiment analysis models alongside data processing/cleaning for 300+ student sample responses

President — Sep. 2023 – Present
Tech@NYU — *New York, NY*
- Built internal member tooling systems with NextJS to manage 300+ active members to optimize event hosting
- Launched hiring hackathon to connect 5 NYC startups to 220 students, creating early talent hiring pipelines
- Secured 20+ speakers for events, including Amy Wu Martin (Menlo Ventures) and Baylor Adams (ZFellows)
- Revamped sponsorship strategy, growing total sponsorships by $10K from Vercel, Anthropic, Nvidia, and Figma

PROJECTS

MCP Observer | *FastAPI, MCP, Supabase, LLMs, Next.js API Development* — Nov. 2025 – Present
- Built SDK and dashboard for analyzing traces & tool calls on MCP tool for understanding agent use behavior
- Built a near real-time ingestion pipeline with FastAPI and Supabase for analyzing traces ~200ms end-to-end

Plugma | *TypeScript, NextJS, ExpressJS, AWS, PostGreSQL, Supabase* — Mar. 2025 – Present
- Developed event platform to perform aggregate ML analysis on 200 events and help grow community by 20%
- Designed scalable full-stack system (Next.js, Express.js, AWS) handling concurrent users with real-time insights

AutoGo; Self-playing Go Board | *Python, Numpy, Arduino, Raspberry Pi, Linux* — Sep. 2023 – Dec. 2023
- Won 1st place (1 of 400+) in NYU RAD Design Competition for best product pitch and MVP execution
- Built AI interface using Python, TensorFlow, and Raspberry Pi, achieving full prototype demo within 8 weeks
- Developed flood-fill like algorithm to predict game states and construct removal paths for self-playing board

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, SQL, C++
Frameworks: React, Next.js, Node.js, Flask, Express.js, Unity, Unreal Engine 5
Developer Tools: Git, Claude Code, Cursor, V0, Docker, CI/CD, AWS, Supabase, PostgreSQL, Manus AI, Lovable
Libraries: PyTorch, NumPy, pandas, scikit-learn, TensorFlow, Transformers, Tailwind CSS, Framer Motion
Interests: Broadway, Operas, Pilates, Philosophy