

Shawn Liu

U.S. Permanent Resident, no sponsorship required

ML / Research Engineer · published AI researcher · two production LLM systems live
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EDUCATION

Columbia University · M.S. in Computer Science

Entered Fall 2026 · Expected January 2028

University of California, Irvine · B.S. in Computer Science, GPA 3.844 / 4.0

September 2022 - June 2026

SKILLS

Languages: Python, TypeScript / JavaScript, SQL, C / C++

ML: PyTorch, scikit-learn, deep learning, computer vision, knowledge distillation, ablation studies

Models: transformers (CLIP / ViT / VideoMAE), graph neural networks

LLM systems: LLM agents, RAG, retrieval evaluation (recall@k, MRR), LLM evaluation, structured outputs, Anthropic API

Systems: FastAPI, Pydantic v2, SQLite / FTS5, PostgreSQL, data pipelines, React, Node / Express, OAuth / JWT

Infra: Docker, Fly.io, AWS S3, CI/CD, Linux

PROJECTS

Loop · LLM scheduling agent, live at loop-study.com Python, FastAPI, SQLite, React / TypeScript, Anthropic API

May 2026 - present

- Give it a career goal and your free hours and it builds a study plan on your Google Calendar: five LLM nodes draft, deterministic code validates and schedules, and nothing reaches the calendar until the user approves.
- Plans cite a curated 242-document corpus: BM25 retrieval graded on 75 labeled queries, recall@5 0.76 and MRR 0.71, pinned as floors.
- A prompt change nobody measured fails the build: every prompt is pinned by SHA-256 and CI re-grades committed LLM recordings offline on every push; 5,152 tests across backend and frontend.

Foothold · transfer-credit navigator, live at foothold-transfer.com solo · Stellic Pathfinders 2026 entry

July 31 - August 21, 2026

- A California community college student enters their courses and a target UC or CSU and learns which will transfer: a deterministic verdict over 352,024 ASSIST articulation rows, every finding citing its agreement.
- Drafts the appeal letter for at-risk courses with one Claude node and checks every course code in it against the findings.

Arrhythmia Classifier · MIT-BIH leakage study github.com/ShawnnnLiu/Arrhythmia_Classifier · team of 3

November 2025 - August 2026

- Showed that the beat-wise split behind many published MIT-BIH results leaks patient identity, so the model learns the patient, not the arrhythmia: one 64,966-parameter CNN scores 98.36% beat-wise, 83.88% patient-wise.
- Wrote a split search over 50,000 sampled patient assignments so the honest split still keeps all six beat classes in the test set.

EXPERIENCE

BiasLab, UC Irvine · Undergraduate ML Researcher

June 2024 - June 2026

- Cut UAV carrier-landing failures by 65% against legacy optical markers in adverse-weather simulation with a PyTorch pose-estimation and symbolic-reasoning model, in work with the U.S. Navy.
- Aligned a trainable event-camera encoder to CLIP's frozen image-text space for zero-shot video anomaly detection and built the attention-visualization pipeline behind it: +5.5 and +5.2 AUC points over frame-based CLIP on UCF-Crime and ShanghaiTech. WACV 2026.

BioIntelligence Lab, UC Irvine · Undergraduate ML Researcher

December 2025 - July 2026

- Antimicrobial peptide MIC prediction from structure: a graph convolutional network over ESMFold-predicted conformations, one node per amino acid residue and the bonds as edges, fused with SVM descriptors.
- Ablations against QSAR descriptors alone isolated what 3D conformation adds: 22% to F1 at the chosen threshold.

AdamsFoods · Full-Stack Developer · adamsfoodswholesale.com

June 2025 - August 2025

- Built and shipped a live wholesale e-commerce platform in React and Node / Express with S3 signed-URL media and JWT admin routes.

AdamsFoods · Full-Stack Developer

June 2024 - August 2024

- Built the inventory system tracking 300+ SKUs on Node.js and PostgreSQL; it replaced handwritten logs and saves staff 5-7 hours a week.

PUBLICATIONS

4 accepted papers · WACV 2026 · ISLPED 2026 · NeurIPS 2025 NeurReps Workshop · Frontiers in AI 2026