David Meltonyan

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Education

Sacramento State University — Sacramento, CA
B.S. in Computer Science | Available to start January 2027 — *Expected December 2026*

Georgia Institute of Technology — Online
M.S. in Computer Science (OMSCS) — *Starting Spring 2027*

Experience

Machine Learning Intern — June 2025 – October 2025
Builders and Tradesmen's Insurance Services — *Sacramento, CA*

- Designed and shipped a Python classification service that maps plain-English business descriptions to 691+ WCIRB class codes, replacing a fully manual underwriting workflow
- Built confidence-based routing so high-certainty results auto-resolve and ambiguous cases escalate to human review, cutting manual review time roughly 40% without silent misclassification
- Designed and optimized PostgreSQL schemas for model outputs, tuning indexes and query patterns to keep ad-hoc analytics fast for data scientists and underwriters
- Built automated ETL jobs in Python (Pandas, SQLAlchemy) processing 20K+ records per month with validation and error handling

Machine Learning / GTM Intern — March 2025 – June 2025
Retail Labs — *Remote*

- Built REST endpoints and SQL aggregation layers serving real-time data to internal dashboards, cutting analyst turnaround on recurring reports roughly in half
- Developed document parsing pipelines converting unstructured quarterly reports into normalized hierarchical JSON consumed by BI tooling
- Contributed to the backend data ingestion services powering Retail Labs' AI retail agent (ARI) and its query capabilities

Automation / Test Engineer Intern — November 2024 – March 2025
Pacific Coast Companies Inc. — *Roseville, CA*

- Built Python tooling to generate production-like synthetic datasets for regression testing, removing the need to expose customer data in lower environments
- Developed internal dashboards to monitor test execution metrics; co-led automated test coverage for critical SAP SuccessFactors workflows

Coding Instructor — June 2023 – November 2024
Code Ninjas — *Roseville, CA*

- Taught Python, JavaScript, and Scratch to 100+ students aged 7 to 14; built an instructor progress-tracking dashboard

Projects

Fraud Triage: Cost-Based Fraud Decisioning | *Python, LightGBM, SHAP, DuckDB, FastAPI, Postgres, Next.js*

- Turned calibrated LightGBM fraud scores into approve / review / block decisions by expected dollar cost under a 30-per-day review budget, cutting total cost 66% vs probability-ranked review on 3 held-out months
- Reached 0.838 test PR-AUC (vs 0.376 baseline) on 1.85M transactions with test-enforced leak-free features; shipped a FastAPI + Next.js review app with SHAP explanations

Cost Melt: LLM Cost Optimization Proxy | *Python, FastAPI, Redis, Postgres, Next.js, Docker*

- Built a drop-in HTTP proxy that reduces LLM inference cost via semantic caching, request routing, micro-batching, and prompt compression, integrating without client code changes
- Designed the routing layer and Redis-backed cache with TTL and similarity thresholds; containerized with Docker Compose and exposed per-request cost attribution through a Next.js dashboard

Technical Skills

Languages: Python, Java, JavaScript, TypeScript, SQL
Backend: FastAPI, Flask, Spring Boot, Express.js, REST API design, Redis
Databases: PostgreSQL, MySQL, DuckDB, schema design, query optimization, SQLAlchemy
Tools and Infrastructure: Docker, Git, Linux, CI/CD, pytest, Playwright, React, Next.js
Machine Learning and Data: scikit-learn, LightGBM, PyTorch, TensorFlow, Pandas, NumPy, SHAP, BERT embeddings