

Samuel Molero

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EDUCATION

Texas A&M University, College of Engineering

B.S. in Industrial Distribution | Minors: Computer Science & Statistics

Honors: Dean's List, Century Scholars

College Station, TX

Expected: December 2026

EXPERIENCE

QTS Data Centers

May 2025 – May 2026

Software Engineer Intern

October 2025 – May 2026 | Remote

- Optimized and maintained MOP/SOP digitization platform, reducing Docker image size by 40% and cutting AWS compute and storage costs across production workloads.
- Eliminated 10+ hours of weekly manual entry by automating Oracle Cloud Fusion change orders with Playwright-based procurement workflows.
- Reduced Lambda and S3 request overhead by parallelizing S3 reads, aligning connection pools, and replacing unconditional ECS calls with a two-phase search pipeline.
- Shipped Terraform-managed Python services on AWS for file upload, parsing, and validation, consumed by an Angular/Nx micro-frontend for data-center operations.

Machine Learning & Data Science Intern

May 2025 – October 2025 | Suwanee, GA

- Built an electrical diagram processing pipeline using computer vision and R-tree spatial indexing to extract asset relationships, with electrical flow checks to detect and resolve mismatches.
- Automated the creation of 6,000+ asset relationships per site and consolidated alarms, reducing time to isolate root causes by 80%.
- Validated electrical-flow relationships and anomaly-detection outputs against operational baselines, surfacing data-integrity issues across 30+ data-center locations.

Texas A&M University

August 2024 – December 2025

Teaching Assistant, ENGR 102/216 & CSCE 111

College Station, TX

- Supported 200+ students in Python and Java via office hours and debugging sessions; delivered guest lectures during instructor absences and authored supplemental practice problems.

PROJECTS

droids-mem – Persistent Memory Layer for AI Agents

github.com/SamuelMolero26/droids-mem

- Shipped a local-first persistent memory service for AI coding agents as a single Go binary with an MCP interface, CodeQL analysis, and end-to-end tests.
- Sustained sub-100ms p95 search with SQLite/FTS5, two-layer deduplication, and an 18-pattern PII scrub pipeline without CGO.

TAMIDS 2026 Finalist – NFL Draft Analytics Platform

- Architected a DuckDB/Parquet medallion lake and Neo4j identity graph across 15 datasets from 2000-2024, linking over 85% of combine and 90% of draft records.
- Delivered explainable player grades and draft recommendations with XGBoost, SHAP, and CVXPY through natural-language workflows backed by Redis/SQLite state.

Music Discovery Engine

- Built a music recommendation engine doubling NDCG@10 over default weights by tuning an ALS recommender's sonic-fit, novelty, emotional-fit, and familiarity signals on the Million Song Dataset.
- Improved recommendation diversity and personalization with MMR re-ranking, per-artist caps, and BIC-selected Gaussian Mixture personas that outperformed fixed-K baselines.

TAMIDS Cyberwise 2025 Finalist (Graduate Division) – Security Analytics Framework (competed as undergraduate)

- Mapped DDoS attack phases with graph-based attack-path visualization and anomaly detection across 476,000+ flagged events.

LEADERSHIP & ACTIVITIES

Vice President & IT Officer, QuantA&M – College Station, TX

January 2023 – Present

- Managed industry partnerships, coordinated a speaker series, and oversaw operations for 50+ members across a quantum computing student organization; designed and maintained the full-stack club website.

SKILLS

Languages: Go, Python, TypeScript, SQL, Java, R, C++

Cloud & Tools: AWS (EC2, S3, Lambda, ECS), Docker, Terraform, DuckDB, Redis, Git, Linux

Frameworks & QA: FastAPI, Flask, React, Angular/Nx, Playwright, CI/CD (GitHub Actions), CodeQL