

EDUCATION

MITx - *MicroMasters Program in Statistics & Data Science*

January 2026 - Present

The University of Texas at Dallas - *B.S. Computer Information Systems and Technology*

August 2021 - December 2024

Honors: Davidson Management Honors Program

Scholarships: *Expedition EY Scholarship*

PROFESSIONAL EXPERIENCE

Huron Consulting Group - Machine Learning Engineer / Workday Software Engineer

January 2025 - Present

- Built ad inventory yield models for a global media and entertainment client that price ad slots, forecast expected slot revenue, and recommend allocation across competing advertiser demand subject to delivery commitments and audience guarantees.
- Standardized profitability measurement across 6 lines of business, enabling ad inventory comparison on a consistent basis across previously independent properties.
- Forecasted component failure across a 2,100+ machine construction equipment fleet, training models on onboard sensor telemetry and daily technician inspection reports to schedule maintenance ahead of unplanned downtime.
- Designed and shipped the technician reporting system generating that inspection data, establishing a structured daily-log pipeline where none previously existed.
- Achieved 0.91 AUC on the failure classification model, validated through backtesting and 3 months of live testing at 96% accuracy.
- Trained and deployed models with PyTorch and TensorFlow on Databricks and AWS infrastructure, orchestrating retraining and inference workflows through n8n.
- Engineered a production generative AI reporting system integrating the Anthropic Claude API with Power Automate, orchestrating extraction from multiple Smartsheet sources and generating analytical summaries of meeting notes and action items, with a mandatory human review checkpoint catching model errors before executive distribution and eliminating 1,500+ hours of manual work weekly.
- Automated XML-to-JSON transformation pipelines with validation rules and RESTful API integration processing 10TB weekly across 25 integrations for multiple enterprise clients
- Contributed to '[Time Tracking Solution](#)' and '[Variable Compensation](#)' published on [Workday Marketplace](#), collaborating across product, engineering, and operations teams to define requirements, build features, and iterate based on user feedback

Huron Consulting Group - *Digital Consulting - Intern*

May 2024 - August 2024

- Engineered a course scheduling application using backtracking and constraint-solving logic against real-time enrollment data, optimizing placement across thousands of schedule permutations.
- Designed the data model and query layer to handle complex scheduling constraints including prerequisite chains, time conflicts, and capacity limits
- Delivered an application subsequently purchased and deployed by two major universities, impacting enrollment operations at scale.

PwC - *Start Consulting Intern*

May 2023 - August 2023

- Analyzed large dataset with SQL and Python for educational access initiatives, identifying enrollment patterns and demographic anomalies across multiple source systems.
- Built interactive dashboards in Tableau, Power BI, and Alteryx, implementing automated pipelines that ingested and transformed data from multiple sources and reduced manual processing time by 60%.

EY - *Expedition Intern*

May 2022 - August 2022

- Earned a \$10,000 merit scholarship following selection from 4,000+ applicants to a program in data analytics, machine learning, and predictive modeling.

TECHNICAL PROJECTS

[2Signal](#) - *AI Agent Evaluation and Reliability Platform* | Python, TypeScript, FastAPI, [Next.js](#), PostgreSQL, Redis, Vercel

- Engineered an evaluation engine executing 25+ evaluators against every agent trace, spanning deterministic checks (JSON schema, regex, similarity, latency, and cost thresholds), LLM-as-judge assessments (groundedness, factual accuracy, workflow adherence), and safety scans (prompt injection, PII leakage, toxicity, multi-category bias).
- Implemented complexity-based model routing directing simple queries to smaller models with fallback chains, reducing client LLM spend 47%.
- Designed a tracing system instrumenting agent code through a single decorator, capturing nested span trees across LLM calls, tool invocations, and retrieval steps with per-span latency, token, and cost attribution.
- Built drift detection and deployment regression comparison, blocking quality-gate failures before release.
- Shipped Python and TypeScript SDKs integrating across OpenAI, Anthropic, LangChain, LlamaIndex, and CrewAI, published as an installable package.

[Algorithmic Trading & Risk Analytics System](#) - *Quantitative Strategy Engine* | TypeScript, Python, Redis, [D3.js](#), Alpaca API

- Programmed a multi-strategy quantitative system scanning 6,000+ assets across equities, crypto, forex, and futures, generating statistical signals and adaptive risk scores to rank opportunities.
- Engineered a walk-forward backtesting framework with train/test validation splits, computing Sharpe ratio, maximum drawdown, and win rate across varying market regimes to prevent overfitting.
- Implemented regime-adaptive strategy weighting that adjusts portfolio exposure using RSI, MACD, Bollinger Bands, ATR, and VWAP, unifying multiple signals into a single scoring model.
- Visualized portfolio performance, trade logs, and risk metrics in a real-time [D3.js](#) dashboard with historical trend analysis.

[Automated Plant Health Monitoring System](#) - *IoT Data Pipeline with ML Models* | PyTorch, scikit-learn, OpenCV, TimescaleDB, FastAPI, Docker

- Engineered three models against a shared sensor feature set: Random Forest for multi-class health classification, LSTM for soil moisture time-series forecasting, and an ensemble producing automated watering recommendations
- Built an IoT pipeline across 3 ESP32 microcontrollers and an ESP32-CAM module, streaming 288+ daily readings from 9 sensors into an async FastAPI backend with Timescale DB storage.
- Developed an OpenCV segmentation system isolating individual plants from a single camera feed, reducing hardware cost 67%.

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, SQL, Java

Machine Learning: PyTorch, TensorFlow, scikit-learn, YOLOv8, LSTM, Random Forest, ensemble methods, OpenCV, feature engineering, backtesting, walk-forward validation, automated retraining

Generative AI: LLM integration (OpenAI, Anthropic), agent tracing and observability, LLM-as-judge evaluation, RAG evaluation, prompt injection and PII detection, drift detection, model routing and cost optimization, LangChain, LlamaIndex, CrewAI

Cloud and Data Platforms: AWS, Databricks, Vercel, n8n, Docker, PostgreSQL, TimescaleDB, SQL Server, Redis, MQTT, ETL pipeline design, Pandas, NumPy, Alteryx

Backend: FastAPI, [Next.js](#), Django, Flask, [Node.js](#), RESTful API design, JWT authentication, WebSockets

Visualization: Streamlit, [D3.js](#), React, Tableau, PowerBI, Excel