

Rob Seals

AI / ML Engineer & Financial Data Analyst

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Professional Summary

Detail-oriented **AI/ML Engineer and Data Analyst** with **5+ years of combined experience** in **AI development, machine learning, financial modeling, and fundamental investment research**. Skilled at **normalizing and sanitizing**, analyzing data, and financial research. Leverages **Python, statistical techniques, machine learning** and **NLP** for insights and predictions. Studied **MBA in Finance** complemented by **postgraduate AI/ML studies**, bridging quantitative finance and modern data science to drive systematic investment decisions.

Work Experience

Financial Data Analyst

Hudson Way Capital (Oct 2020 – Jun 2021)

- **Normalized** structured and unstructured alternative data from multiple sources.
- **Tracked** securities, behavioral, and credit data contributing to internal models and supporting investment decisions.
- **Performed** anomaly detection on financial statements and alternative data identifying irregular trends that informed deeper investigative analysis.
- **Developed** sentiment analysis tools to detect market trends, generating signals for trading and portfolio risk management.
- **Scraped** public sources for alternative data, augmenting traditional financial metrics for more robust decision-making.

Intent Analyst

Socorro Asset Management (Jun 2020 – Sep 2020)

- **Conducted** research on **publicly traded, income-producing securities** (equities, preferred shares, corporate bonds) across various sectors.

- **Performed** risk assessments and helped monitor a **diversified portfolio**, ensuring stability and alignment with bottom-up, fundamental strategies.
- **Utilized** quantitative methods and empirical data to **identify market trends** supporting strategic investment decisions.
- **Prepared** detailed reports on **capital structure changes** and other corporate events (e.g., share repurchases, bond offerings).

AI / ML Engineer

Tata Consultancy Services (TCS) (Jun 2024 – Oct 2024)

- **Integrated** NLP models to parse and classify unstructured text, including **financial documents** and product data.
- **Deployed** LLM-based solutions on AWS Lambda for scalable model management and performance tracking.
- **Engineered** prompt workflows (RAG systems) to improve generative text outputs, ensuring higher accuracy in client-facing dialogues.

NLP / Conversational AI Scientist

Charter Communications (Spectrum) (Jun 2023 – Jun 2024)

- **Built** NLU systems and conversational AI bots to improve customer interaction and routing, achieving a **95% F1 score**.
- **Analyzed** large volumes of user intent data, refining prompt strategies and conversational flows with cross-functional teams.
- **Developed** pipelines for data preprocessing and semantic search, optimizing information retrieval for user queries.

Machine Learning Engineer

Vision R&D (Aug 2021 – Jun 2023)

- **Developed** advanced AI solutions, including **NLP**, computer vision, and reinforcement learning for various client use cases.
- **Architected** retrieval systems and microservices, integrating **Faiss** and **Rust** to accelerate model performance.
- **Led** data operations, ensuring data security, proper versioning, and alignment with business objectives.

Co-Founder

Vuzag App (Jan 2016 – Jun 2020)

- **Developed** MVP of a location-based visual search iOS app, raising **\$800,000** in seed funding.

- **Managed** technical teams to enhance app features, reaching over 30,000 downloads with a 5-star rating.
 - **Executed** sales and marketing strategies, building partnerships to enrich real-time app content.
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Selected Projects (Personal & Freelance)

Interactive Chatbot for 10-K Filings

- **Focus:** Built an **LLM-based chatbot** that ingests **10-K / 10-Q filings** and **internal corporate data** to provide **on-demand insights** and **Q&A** functionality with **RAG**.
- **Tech:** Python, Huggingface Transformers, Faiss, Flask, Docker, AWS

AutoML System for Financial Signal Data

- **Focus:** Automated data pipelines for **stock and financial data**, improving **model selection** and **hyperparameter tuning** for enhanced **price prediction**.
- **Tech:** Python, scikit-learn, TensorFlow, Optuna, Docker, AWS

NLP Pipeline for Financial Data Analysis

- **Focus:** Analyzed **SEC filings**, **earnings call transcripts**, and news articles via **NLP** for entity recognition, **sentiment analysis**, and topic modeling.
- **Tech:** Python, spaCy, TensorFlow, Huggingface, Azure

Reinforcement Learning-based Cryptocurrency Trading Agent

- **Focus:** Explored **RL** strategies integrating market data and social sentiment, applying risk management for crypto asset trading.
 - **Tech:** Python, TensorFlow, Graph Neural Networks, AWS EC2
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Core Skills

- **Financial Data Analysis:** SEC filings (10K/10Q), corporate bond issuance tracking, capital structure changes, anomaly detection
- **Python & Data Engineering:** Pandas, NumPy, scikit-learn, TensorFlow, PyTorch, SQL, Docker/Kubernetes
- **NLP & ML:** Language modeling (GPT/BERT), sentiment analysis, entity extraction, data cleaning, model deployment

- **Alternative Data & Quantitative Research:** Web scraping, fundamental + unstructured data integration, time-series modeling
 - **Statistical Analysis & Econometrics:** Regression, hypothesis testing, asset pricing, risk assessment (MBA & postgrad AI/ML background)
 - **Soft Skills:** Cross-functional collaboration, communication, detail-oriented research, strong problem-solving
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Education

Post Graduate Degree (AI & ML)

University of Texas (Jan 2022 – Dec 2023)

- Relevant Coursework: **EDA, Advanced Machine Learning, Data Engineering, MLOps, NLP, Computer Vision, Deep Learning, Reinforcement Learning**

Master of Business Administration (Finance)

Southern Methodist University (Jan 2020 – Feb 2021)

Bachelor of Arts (Sociology & Computer Science)

Southern Methodist University (Jul 2011 – Dec 2015)

Additional Notes

- **CPA/CFA:** Not held, but comfortable with **fundamental analysis, statistical research, and empirical data.**
- **Teamwork & Communication:** Experienced in collaborating across data, finance, and executive teams.