Adam C. Sanders

26 Carmine St, Apt 3E
New York, NY 10014

adamcsanders@gmail.com
adamcsanders.com

Education

Princeton University, A.B. in Computer Science — June 2009

Professional and Research Experience

Engineers Gate L.P.

Portfolio Manager - SANA Equity Trading Team - (2021-Present)

- Founded and led intraday medium-frequency US equities team at Engineers Gate managing ~$500M GMV.
- Designed and built an end-to-end research and trading platform spanning alpha development, portfolio optimization, risk management, and simulation, enabling rapid development, validation, and deployment of equity models across three regions.
- Architected an asynchronous distributed research system managing thousands of model candidates and hundreds of production models updated daily, enabling large-scale experimentation from backtest through daily production.
- Built an orchestration system for model and simulation dependencies across diverse model types (linear, tree-based, neural networks, and custom/hybrid weighting schemes) with automatic scaling across CPU/GPU resources.
- Developed highly automated data ingestion and research pipelines spanning 300+ dataset/region combinations, enabling large-scale feature generation and model development with over 35k addressable features in the AM region alone.
- Designed and implemented an agentic LLM research system to automate alpha exploration and model iteration, enabling natural language-driven experimentation across features, hyperparameters, and simulations.
- Leveraged research architecture to develop and deploy thousands of production features and models used in live trading.
- Built highly fault-tolerant trading system with rigorous validation, achieving zero preventable downtime over multiple years.

Senior Quantitative Researcher - BORS Equity Trading Team - (2015-2021)

- Launched a new trading group within EG; built and maintained a research platform, production systems, and trading processes in three regions, architecting data ingestion, validation, serving, and analysis pipelines.
- Built distributed regression and analysis framework in Spark to load and manipulate data in-memory across a cluster of computers allowing for near-instantaneous intraday equity research.
- Designed and built domain-specific language with custom compiled parallel time-series manipulation library to aid alpha development, enabling researchers to confidently develop alpha signals without lookahead bias or data leakage.
- Developed hundreds of predictive features across event, fundamental, technical, news, and sentiment data, aggregated into stacked daily-updating rolling regression models that ultimately powered ~50% of GMV and >80% of PnL for the team.

Senior Software Development Engineer - Core Technology Team - (2014-2015)

- First employee at a new hedge fund; led development of central research platform and core trading systems from inception.
- Built distributed cloud-based infrastructure (AWS) supporting monitoring, alerting, scheduling, and long-running production services.
- Architected and built the firm-wide data platform integrating terabytes of bitemporal data into curated security master, pricing, and other market datasets (Spark, Mesos, S3).
- Built custom Mesos framework for distributed backtesting and large-scale compute workloads, handling dependency management, resource allocation, and code distribution in a shared cluster environment.

Amazon

Software Development Engineer - Recommendations Team - (2011-2014)

- Created the scalable closed-loop optimization pipeline and initial machine-learned models responsible for ranking recommendations at Amazon. Pipeline integrated billions of new training examples into our ML models on a daily basis. Iterated on feature and model development to improve the accuracy of Amazon Recommendations, generating significant incremental revenue in online A/B tests.
- Designed and implemented the distributed processing environment used by 40+ developers to easily and flexibly process the terabytes of data each day required by the algorithms that power personalization features at Amazon. Utilized advancements to create distributed model evaluation framework, as well as distributed implementations of ALS matrix factorization and SGD logistic regression.
- Developed a new online recommendations service dropping latencies for key components of our existing service by 30-90%.

Software Development Engineer - Fact Extraction Team - (2009-2011)

- Worked with a team that specializes in using information retrieval and NLP to extract high quality structured product attributes from billions of merchant contributions with the aim of improving Amazon's global catalog.

Natural Language Processing Research, *2008 - 2009, Senior Independent Work*
Developed platform that automatically aggregates, analyzes, and visualizes thousands of RSS feeds using Latent Dirichlet Analysis.

Liquid Chromatography/Mass Spectrometry Data Analysis, *2007 - 2008, Junior Independent Work*
Developed more efficient and effective means to clean, analyze, and view mass spectrometry protein scans.

Biofuel Flux Balance Analysis, *2008, Harvard University*
Applied linear programming and networking techniques in order to model the production of biofuels in algae.

American Indian Science and Engineering BPC Research Program, *2007, University of Michigan*
Developed an artificial intelligence agent to compete in annual ORTS AI competition.

Skills

Technologies: AWS, Mesos, Spark, Dask, Numba, Docker
LLM Systems: MCP, Bedrock, RAG, agentic research workflows
Languages: Java, Python, C/C++
Patents: 6 patents granted, 11 patents filed at USPTO