

Sean Mullins

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Work Experience

Toast

Senior Analyst

April 2025 - Present

- Recognized as a top 20% performer company-wide in first annual review (all employees) — driven by proactively leveraging AI to build analytics infrastructure supporting a new motion during a high-demand period
- Architected the company's first unified customer profiles table — consolidating data from disparate systems — and integrated Snowflake Cortex to enable natural-language querying, giving CSMs instant access to account data and support transcripts for call prep and account readiness, eliminating manual lookups across systems
- Leveraged the customer profiles table to build an ML/AI-driven customer health score — applying NLP to textual data and ML to numerical data — powering real-time at-risk monitoring and proactive churn identification, contributing to \$200K in retained ARR
- Applied full-stack analytics engineering (SQL, Python, dbt, version-controlled development in VS Code) to build five net-new tables supporting competitive intelligence and customer/revenue retention visibility — expanding the team's self-serve analytics capabilities
- Owned end-to-end churn forecasting, building source-of-truth dashboards that gave finance and operations leadership unified visibility into customer retention trends, concessions, and case management performance
- Participated in Toast's AI adoption pilot as an early tester of general and internal AI tools, providing hands-on feedback that helped shape rollout and adoption strategy across the organization

OpenExchange

AI Engineer

April 2024 – April 2025

- Led AI integration efforts, identifying operational inefficiencies and developing Python-based software to incorporate LLMs and AI tools across the organization. Prototyped and deployed four AI features in Q1 2025, streamlining workflows and enhancing automation
- Engineered an LLM-powered Python solution for structured data extraction and API integration, automating meeting and resource creation in Salesforce. Cut manual data entry by ~100 hours per week and significantly improved data accuracy

Financial Analyst

May 2021 – Sep 2022

- Designed and maintained Power BI reports integrating Salesforce, HRIS platforms, and SQL databases to analyze workforce utilization, revenue projections, profitability, and staffing efficiency, presenting insights to C-suite executives
- Analyzed 10K+ earnings call transcripts using NLP in Python, correlating stock price movements from our proprietary data with clients' earnings calls. Insights led management to explore monetizing this data as a financial product

Data Analyst

Aug 2020 - May 2021

- Led initiatives to engineer, and maintain ETL SQL scripts and data pipelines, integrating data from six sources into a BI tool
- Managed and optimized a 65M-row SQL Server database containing extensive client data, implementing performance enhancements that significantly improved query efficiency, and expanded the system's analytical capabilities, enabling more effective reporting

Projects & Education

May 2023 - June 2024

Tr4der

- Designed and implemented an algorithmic trading library in Python that allows users to generate and backtest trading strategies using natural language prompts, streamlining the ideation process for stocks and ETFs
- Integrated advanced machine learning models including linear regression, SVM, and LSTMs into a 5,000-line Python codebase, resulting in 2,500+ downloads on PyPI and attracting over 40,000 views across various platforms

Mix50

- Developed an audio effects and DSP Python library enabling autonomous music mixing and DJ transitions: Implemented functionalities for analyzing audio features like BPM, key, and beatgrid, as well as customizable effects such as fades, high-pass, and low-pass filters, enhancing audio processing capabilities for users in DJ and music production contexts
- Achieved over 7,000 downloads on PyPI, demonstrating adoption within the audio engineering community

Education

Fordham University

Master of Science, Data Science (GPA: 3.9/4.0)

Boston College, Carroll School of Management

Bachelor of Science, Finance

Skills & Interests

- **Programming Languages:** Python, SQL, Swift, Javascript, R, HTML, CSS, C++, Bash
- **Frameworks & Tools:** Snowflake, Hex, Sci-kit Learn, Pandas, Flask, Git, AWS, Azure, GCP, HPC
- **Interests:** [Music Production](#), [Reading](#), [Tennis](#)