

# Sean Mullins

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## EDUCATION

- Master of Science in Data Science, **Fordham University** (GPA: 3.9/4.0) *Aug 2023 – Aug. 2024*
- Bachelor of Science in Finance, **Boston College, Carroll School of Management** *Sep 2016 – May 2020*

## PROFESSIONAL EXPERIENCE

### OpenExchange

#### Data Engineer

*Jun 2024 – Present*

- Developed a Python microservice using Chalice and AWS, automating multiple operational workflows
- Streamlined extraction and integration of structured data by implementing function calling and LLMs with various APIs. Optimization reduced project management data entry time by **~100hrs per week**
- Served as de facto “AI” expert, brainstorming integration techniques while actively monitoring AI landscape

#### Data Analyst

*Aug 2020 – Sep 2022*

- Led initiatives to engineer and maintain ETL SQL scripts and data pipelines loading data across six sources
- Boosted Salesforce analytics by integrating BI tools, reducing report generation time by 50%
- Managed a **65M-row** SQL Server database, enhancing performance to improve query efficiency and capabilities

### IBM & Fordham Fellowship

*May 2024 – Present*

#### Research Intern

- Implemented Retrieval-Augmented Generation (RAG) using AWS Sagemaker to analyze and understand knowledge decay within a company, driven by employee movements and organizational changes
- Developed Python algorithms for data matching, incorporating LLM and web scraping techniques
- Created a sophisticated 1TB database in AWS to store and manage research data effectively

### Greystone

*Oct 2022 – May 2023*

#### Data Analyst

- Developed a Python-based loan document scraper which automated loan-term extraction and data entry into an API database, achieving **annual cost savings of \$25,000** for the project (20%)
- Designed and implemented PowerBI dashboards to visualize and track key performance metrics
- Personally managed a **\$100M portfolio** of healthcare loans, overseeing performance, risk, and strategy

## PROJECTS & RESEARCH

### SongSpy – [Website](#)

- Developed a machine learning-powered web application to identify artificially generated music, training a classifier on 1,000+ audio files sourced from YouTube and achieving **85% prediction accuracy**
- Developed using Flask and deployed to PythonAnywhere. **1,000 site hits** on the first day with 100 article views

### Reverse Momentum – [Website](#)

- Engineered and implemented a quantitative trading strategy, conducting statistical tests to assess market efficiency and analyze the impact of major events on equity prices. Achieved **1.87 Sharpe Ratio**
- Leveraged Python APIs for automated trade execution, optimizing the strategy's implementation

### Goons – [Website](#)

- Professional music project with **7 million streams** across platforms. Led all aspects of project over the past 13 years, including sound design, recording, engineering, production, songwriting, marketing, and artwork creation
- Remains an active enterprise with supplemental income and creative expression

## LEADERSHIP EXPERIENCE

### 2x Captain | Boston College Men's Varsity Tennis Team

*Sep 2016 – May 2020*

- Twice-selected captain of the Men's tennis team (Junior and Senior) for the 2018-2020 seasons
- Recognized on the Atlantic Coast Conference Academic Honor Roll for both the 2019 and 2020 seasons

## TECHNOLOGIES & INTERESTS

**Programming Languages:** Python, Javascript, C++, R, SQL, HTML, Bash

**Frameworks & Tools:** PyTorch, SKLearn, Pandas, Flask, Git, AWS, Azure, GCP, HPC

**Interests:** Audio Engineering, Exercising, Reading