

THOMAS YOUSEF

pharaoh@bu.edu | (978) 376-2771 | Boston, MA | [LinkedIn](#) | [GitHub](#) | [Portfolio Website](#)

EDUCATION

Boston University, Faculty of Computing & Data Science Boston, MA
B.S. in Data Science | Minor in Business Administration Expected May 2026
GPA: 3.52/4.0
Coursework: Analysis of Variance, Data mechanics, Applied Statistics, Geometric Algorithms, Data Structures

EXPERIENCE

GLOB~S Research Lab Boston, MA
Research Assistant Aug 2024 – Present

- Applied multi-period **Difference-in-Differences** (DiD) models to analyze changes in patent activity growth rates in New Orleans vs. other counties before and after Hurricane Katrina.
- Utilized **statsmodels** library in **Python** to implement the statistical models and test hypotheses.

Fresenius Medical Care Lexington, MA
Global IT Enterprise Solutions Intern June 2024 – Aug 2024

- Specialized as a features engineer, utilizing **Next.js**, **React.js**, and **Node.js** to develop web components and designed backend schema using **AWS SAM** and connected it to a **DynamoDB** database for data storage
- Conducted comprehensive testing, ensuring functionality, accuracy, and business requirements

BU Finance and Investments Club Boston, MA
Assistant VP of Quantitative Division Sep 2023 – Present

- Gave lectures to junior developers on finance topics including Binomial Options Pricing Models, Modern Portfolio Theory, Monte Carlo Methods, and more
- Led a team of 4 quant developers to create **10 technical analysis indicators** (RSI, MACD, SMA, etc.) in **Python** to be leveraged as features in an **LSTM neural network** to predict future stock directionality
- Models produced an average ROI of **164%** which we presented to club members, executive board, BU professors, and industry professionals. [GitHub Link](#)

PROJECTS

Boston KTP | [GitHub Link](#) – [App Store](#) May 2024 - Present

- Developed a full stack app using **React Native**, **Node.js**, **Express**, and **MongoDB**, serving more than 200 active users with 1,000+ database invocations daily
- Implemented **conditional rendering** for executive board members to create, edit, and delete events, manage alerts, and oversee rushee progress (e.g., moving to closed rush or promoting to pledging).

Sports Betting Arbitrage | [GitHub Link](#) Feb 2024 - May 2024

- Used **Odds-API** in **Python** to obtain betting odds for NBA basketball games from 14 different sports books to discover how often arbitrage opportunities occurred
- Through **statistical analysis** and graphing, we found that as games progress, sports books' betting odds can vary greatly and lead to many arbitrage opportunities

COVID-19 Policy Efficiency | [GitHub Link](#) Oct 2023 - Dec 2023

- Led a team to create a modern data pipeline solution in **Azure** that extracted, cleaned, loaded and analyzed COVID-19 policy data to discover which policies were most effective in reducing COVID-19 cases
- Created a **galaxy schema** for our data in an **Azure ODS**, which was loaded in an **Azure synapse warehouse** and connected to **PowerBI** for statistical analysis and evaluation

Sentiment Driven Stock Selector | [GitHub Link](#) May 2023 - Jul 2023

- Utilized **Python** to **scrape** Google News for S&P 500 companies' headlines. Analyzed the average sentiment of top 5 headlines for each company daily leveraging nltk library
- Applied **linear regression** to data and identified a strong positive correlation between **60** companies' headline sentiment score and stock profit as a percentage

SKILLS

Technical Skills: Python - Java - HTML/CSS - JavaScript - MATLAB - SQL - R

Software: React/React Native - Node.js - Azure - AWS - Scikit-learn - TensorFlow - Pandas - NumPy

Languages: English – Arabic (Native)