ROHAN T. MAHAJAN

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EDUCATION

Rice University **Houston, TX**
Bachelor of Science in Computer Science *Class of 2026*

- **GPA:** 3.75/4.00
- **Relevant Coursework:** Computer Systems, Tools & Models for Data Science, Linear Regression, Program Design, Data Structures and Algorithms, Computational Thinking, Financial Management, Financial Accounting

TECHNICAL SKILLS

- **Programming:** Java, Python, TypeScript, JavaScript, HTML/CSS, SQL, Node.js, C, R, Angular, Node.js, Spring Boot
- **Tools:** Microsoft Azure, Amazon Web Services (AWS), Git, PowerBI, Tableau

EXPERIENCE

Smith and Associates **Houston, TX**
Software Engineer Intern *June 2024 - Present*

- Architected enterprise chatbot using Azure Python SDK, integrating Azure Blob Storage for document storage and Azure AI Search for vector store and retrieval, developed as a microservice RESTful API using FastAPI with LangChain to interact with LLM and retain conversation history
- Designed and built frontend using Angular and integrated with Python-based RESTful API through API calls in the Spring Boot middleware, ensuring seamless chatbot interactions
- Implemented Azure CLU-based routing system to direct queries to one of multiple microservices, optimizing efficiency

Valix Group LLC **Hybrid-- Chicago, IL**
Software Engineer Intern *October 2023 - Present*

- Developed Python backend in microservice architecture to automate different trade entries and exits, leveraging over **300,000 stock price datapoints** from historical quotes, saving firm over **$2,400 annually** in backtesting software costs
- Collaborated with real estate investment team under AGILE project management to employ Node.js based browsing agent to gather and centralize information about commercial real estate listings in the Chicagoland area
- Developed Python feature to conduct and display in-depth correlation analyses between public equities and futures in order to aid investment decisions for portfolio management team

Biokind Analytics **Houston, TX**
Data Consultant – Halo House Management Team *September 2023 – April 2024*

- Analyzed and found trends in **over 30,000 entries of patient and donor data** contextualized with seasonality trends to visualize (GeoPy, seaborn, matplotlib) and identify critical periods of funding as well as patient tendencies
- Synthesized and presented patient demographic information alongside donation type and amount to Halo House upper management and proposed actionable deployment strategies that are to be implemented starting this year

Energy Innovation Capital **Remote-- San Francisco, CA**
Venture Capital Data Analytics Extern *December 2023 – February 2024*

- Implemented multiple linear regression model on **100,000 early stage startup companies** taking into account firm size, most recent funding round, and number of founders to predict total startup funding with **over 85% accuracy**
- Conducted exploratory data analysis of startup data, employing visualization capabilities from both Tableau and ggplot2
- Presented data-driven insights on three prospective venture opportunities within Energy and Utility analytics sub-sector, emphasizing focus on AI and data analytics to capitalize on emerging market trends

PROJECTS

Fake News Detection using Natural Language Processing **Westmont, IL**
Python *August 2023*

- Preprocessed **over 6,000 texts** by eliminating stop words, tokenizing, and padding data to prepare for NLP tasks
- Utilized word embeddings from GloVe text file to generate word embeddings matrix cultivated specifically for texts
- Engineered multi-layered neural network using TensorFlow Keras, **predicting validity of news at ~ 90% accuracy**

Music Recommendation using Unsupervised Learning **Westmont, IL**
Python *July 2023*

- Engineered Streamlit web application utilizing K-Means clustering to accurately recommend songs similar to user inputted track, leveraging a dataset of over 900,000 datapoints
- Deployed application to an AWS EC2 instance, ensuring reliable and scalable access

Discounted Cash Flow Automation with Monte Carlo Simulation **Westmont, IL**
Python *March 2023*

- Data scraped using Requests library to find values corresponding to inputs in a Discounted Cash Flow (DCF) valuation
- **Ran over 20,000 simulations** based on normal probability distribution for variable inputs in DCF model