

Raafi Rahman

Mathematics BA/MA Student

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Staten Island, New York

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Education

City University of New York Hunter College BA/MA program (GPA: 3.674, *Yalow Scholar*)

New York, New York

Expected June 2022

- Master's: Applied Mathematics
Coursework: Numerical Methods, Data Science and Machine Learning, Measure Theory, Functional Analysis, Advanced Probability Theory, etc.
- Bachelor's: Mathematics/Computer Science minor
Coursework: Calculus 1-3, Linear Algebra, Software Analysis, SQL Programming, Applied Statistics, Number Theory, Abstract Algebra, Real Analysis, Ordinary Differential Equations, etc.

Staten Island Technical High School

Staten Island, New York

Graduated June 2018

- Advanced Regents Diploma
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Projects

HAL9001 (Python)

Personal assistant and chatbot created using Tensorflow. The model utilizes the “bag-of-words” NLP technique to decipher the command of the user. Model created using Tensorflow. Data manipulation is done through the Natural Language Toolkit (NLTK). Incorporates the Spotify API to allow Spotify control and the OpenWeather API for real-time weather retrieval. HAL9001 is able to search Google, Youtube, and Wikipedia. Other tasks and light conversation are also possible.

Planetarium Arcadium (Javascript, HTML, CSS, SQL)

Led a team of 4 people to create a full (PERN) stack orrery web app. The data was obtained from the NASA Exoplanet Archive and stored in a PostgreSQL database with more than 3000 items served through an Express server. Front end built using Javascript, React.js, and Node.js. The project is hosted in an AWS EC2 instance on a Ubuntu server. Users are able to search up, visualize, and learn about distant stars and their orbiting planets.

Digit Classifier (Python)

The user is able to “handwrite” a digit and then the model will return its best guess at which digit it is. Model created and trained using Tensorflow. The data utilized is the MNIST handwritten digits dataset, retrieved using Keras and read using OpenCV. Achieved an accuracy of 99.9% among the test data.

Stock Price Predictor (Python)

Created and trained using Tensorflow. The dataset used is the open-source Yahoo! stock price repository. The model trains off of a given ticker's closing price for a given range of dates and determines the closing price for the next day after the range.

Shortest Path Finder (C++)

Used Dijkstra's algorithm to create a shortest path finder application. Utilized sorting algorithms to order nodes by distance.

Technical Skills

Programming Languages: Python, C++, HTML, CSS, SQL, Javascript

Technologies: Tensorflow, Anaconda, NumPy, Matplotlib, Pandas, Scikit-Learn, OpenCV, Keras, NLTK, Flask, Tkinter, MySQL, PostgreSQL, AWS EC2, AWS Amplify, AWS RDS, AWS S3, Windows, Linux, Ubuntu, React, Node, Express, Visual Studio Code

Work Experience

Five Eleven Deli and Grocery (Sales Associate)

Staten Island, New York

2017 - 2021

- Entrusted to mediate business-bank transactions

Bright Leadership Academy (Tutor)

Staten Island, New York

2015 - 2017

- Designed lesson plans and taught Math, English, and Science to students of grades 3-8
 - Prepared middle schoolers for the Specialized High Schools Admissions Test (SHSAT)
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Extracurriculars

South Asian Culture Club (President)

2021 - Current

- Engaged in social, financial, and logistical decision making

South Asian Culture Club (Executive Board Member, Graphic Designer)

2020 - 2021

- Designed promotional flyers for many events that led to over 50 new members joining

Hunter Symphony (Trombonist)

2018 - 2019

- Performed pieces by Mozart, Tchaikovsky, and Bartok
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Additional Information

Spoken Languages: English (*Native*), Urdu/Hindi (*Conversational*), Russian (*Basic*)

Other Skills and Honors: AutoCAD Certified, Fusion 360, Revit, Trombone, Baritone, Guitar, Computer Building, Photoshop

Interests: Chess, Math, Music, Space, Futurology, Investing, Philosophy, Metaphysics, Etymology