Syed Ali Haider

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Education

New York University Shanghai Aug '21 – May '25
Bachelors of Science in *Computer Science*, Minor in Math *Major GPA: 3.704/4.0*

Relevant Coursework: Calculus, Discrete Math, Probs and Stats, Linear Algebra, Quantum Computing, Data Structures, Algorithms, Computer Systems Organization, Operating Systems, Databases, Info Visualisations, Machine Learning, Computer Vision, Big Data Science, NLP

Experience

Khudi Ventures — *Research Engineer Intern (RecSys)* Jul '24 – Sep '24

- Developed a matching algorithm for a matrimony application, increasing user engagement by 10%.
- Developed a profile vectorization method using Pinecone, Python and TensorFlow to transform user data into embeddings for compatibility analysis.
- Implemented reinforcement learning with NLP-based sentiment analysis and topic modeling to refine matchmaking. Using graph theory (e.g., Gale-Shapley) and psychometric profiling, I enhanced algorithmic stability and personalization, deploying solutions for a platform serving 10M+ users.

Reckitt Benckiser —MENA IT&D, *Data Science Intern* May '24 – Jul '24

- Developed predictive pricing and sales forecasting models to support data-driven decision-making with 97.93% accuracy using ensemble methods, XGBoost, and custom regression algorithms.
- ETL pipelines were built with Hadoop and RapidMiner, data analysis conducted in Jupyter Notebook, and interactive dashboards created using JavaScript, HTML, and Power BI. Azure supported scalable deployment.

NYU Stern —*Research Assistant (Prof. Divya Singhvi)* Jan '24 – May '24

- Developed a "nudge" recommendation system using reinforcement learning and clustering on panel data, reducing churn rates in a longitudinal study.
- Implemented Latent Mixed Modeling and custom ML algorithms in R and Python. Using big data tools like Hadoop and Jupyter Notebook, I integrated NLP-based sentiment analysis and topic modeling to refine personalization.

Listen.Dev —*Software Engineer Intern* Jun '23 – Sep '23

- Developed a live cybersecurity monitor analyzing real-time attacks from RSS feeds, documented 20k+ supply chain attacks, and applied MySQL, Flask, GPT Turbo, LangChain, and web scrapers to streamline generation of attack summaries.

NYU Interactive Media Lab — *Research Assistant (Prof. Nicole Wang)* Jan '23 – May '23

- Designed and deployed an LLM-based Gen-AI grader to automate and improve grading accuracy for college professors, utilizing MongoDB, Python, Flask, HPC, and GPT-4 Turbo.

Jika.io —*Data Engineer Intern* Aug '22 – Dec '22

- Orchestrated a MySQL to Google BigQuery pipeline using DataGrip, reducing processing time and enabling real-time reporting, while contributing to a migration project

Projects

Kiwi+ @ *NYU MAPS Lab* [Technical Report] Oct '24 – Dec '24
Supervisor — Prof. Hongyi Wen

- Developed Kiwi+, a context-aware educational chatbot that leverages Knowledge Retrieval (KR) for enhanced context awareness. The chatbot utilizes audio and vision analysis to detect sentiments, enabling it to deliver multi-modal personalized learning experiences. Currently researching metrics for evaluation for best retrieval techniques, optimizing pipeline, and evaluating LLVMs.

MAE-BERT VQA @ *Dean's Undergraduate Research Fund* [Report][Code] May '24 – Aug '24
Supervisor — Prof. Li Guo

- Fine-tuned the BLIP-VQA model with LoRA layers and developed a custom VQA model using a MAE ViT and pre-trained BERT, incorporating cross-attention for image captioning and VQA tasks, resulting in accuracy performance improvements of 2.37% on the COCO dataset.

Syncify RecSys @ *Big Data Science Final Project* [Report][Code] [Slides] Apr '24 – May '24
Supervisor — Prof. Anasse Bari

- Developed Syncify (model & API), a mood-based music recommendation system using Spotify and Musixmatch data.

Auto-Steer @ *Computer Vision Final Project* [Report][Code] [Demo] Slides Mar '24 – May '24
Supervisor — Prof. Jean Ponce

- Engineered a Transformer-based motion prediction model for autonomous vehicles utilizing the DAVE-2 dataset, integrating multi-head attention and positional encoding techniques, achieving 95.5% accuracy in steering angle prediction while leveraging TensorFlow and Keras for deep learning implementation.

Quantum Prisoners' Dilemma @ *Quantum Computing Final Project* [Report] Feb '24 – May '24
Supervisor — Prof. Nicholas Spooner

- Conducted a literature review on Quantum Games, focusing on classical and quantum strategies in the Prisoner's Dilemma.

Awards & Honors

Most Popular Project Award | *NYU Shanghai Undergraduate Research Symposium* Fall '24
Dean's Undergraduate Research Fund ($1000) | *New York University* Summer '24
Dean's List for Academic Year | *New York University* '21 – '23
Research Assistant Honorary Grant ($1000) | *New York University* Spring '23
Scholar's Full Ride Award, Yale Young Global Scholars ($6500) | *Yale University* Summer '19

Leadership

Panel Speaker | *Limitless Conference at NYU* March '25
Tech Lead Dev Team | *Fintech & Blockchain Club at NYU* Jan '24 – May '24
Tech Lead & Mentor | *Tech@nyu Club* Aug '23 – Dec '23
Director Tech Consultancy | *TAMID Group at NYU* Jan'23 – May '23
Sectary General | *New York University Model United Nations VI* Jan '23

Tutoring

Lead Course Assistant in CS Discipline | *NYU* Aug '24 – Dec '24
Course Assistant for Data Structures | *NYU* Aug '24 – Dec '24
Course Assistant for Introduction to Data and Computer Science | *NYU* Jan '23 – May '23
Course Assistant for Introduction to Computer Programming | *NYU* Aug '22 – Dec '22

Skills

Programming Languages: Python, Java, C, C++, SQL, JavaScript
Technologies & Tools: PyTorch, TensorFlow, Keras, OpenCV, NumPy, Pandas, PySpark, Matplotlib, BigQuery, Pinecone, Hadoop, LangChain, RapidMiner, Azure, PowerBI, Tableau, React, Flask, Django, Slurm Linux, Git, Figma, LaTeX