

# Muhammad Abdul Rafey Farooqi

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## EDUCATION

<b>National University of Sciences &amp; Technology</b> , Pakistan	Nov 2021 – May 2026
B.Eng. in Software Engineering	
<b>Utah Tech University</b> , Utah, United States	Jan 2024 – May 2024
Exchange Student (Computer Science)	

## PUBLICATION

[1] (INSC'25 Under Review) On Banishing Hallucination in Multimodal Large Language Models  
MUHAMMAD ABDUL RAFEY FAROOQI, Hashir Moheed Kiani, Nazia Perwaiz

## RESEARCH EXPERIENCE

<b>SEECs</b> , National University of Sciences & Technology – Islamabad, PK	Sep 2024 – Present
Advisor: Dr. Hashir Moheed Kiani	
<b>Topic:</b> Multimodal LLMs, Vision Language Models, AI Agents	
<ul style="list-style-type: none"><li>Improving the factual accuracy of VLMs by implementing a Massive Mixture of Experts (MOME) architecture while retaining the generalization power of the model.</li></ul>	
<b>SEARCH LAB</b> , University of Saskatchewan – Saskatoon, Canada	June 2024 – Aug 2024
Research Assistant to Dr. Zadia Codabux	
<b>Topic:</b> Technical Debt in Open-Source Software	
<ul style="list-style-type: none"><li>Profiling developers based on their characteristics to understand where more time is spent and which areas are likely to incur more technical debt.</li><li>Customized a Large Language Model using PEFT techniques to improve issue assignment on GitHub, ensuring developers with relevant experience are assigned to the right issues.</li></ul>	

## INTERNSHIPS

<b>Sarmaaya Financials</b> , Islamabad, Pakistan	Oct 2022 – Jan 2025
Software & Data Engineer	
<b>Focus:</b> ETL, Orchestration, Data Warehousing, Data Analysis	
<ul style="list-style-type: none"><li>Fostered a new customer base by providing real-time updates on the Pakistan Stock Exchange. Engineered the data pipeline architecture to provide seamless integration with the database.</li></ul>	

## PROJECTS

<b>Agent-First-Organization:</b> Framework for developing AI Agents	🐙 Agent-First-Organization
<ul style="list-style-type: none"><li>Built an AI agent that can fetch the latest news from Google using Search Agent, provide analysis, and layout an investment plan. The agent can be adapted to any specific market.</li></ul>	
<b>Radixpert:</b> Vision-Language Model for Radiologists	🐙 Radixpert
<ul style="list-style-type: none"><li>Developed a Vision LM to help radiologists with efficient report generation of X-Ray and CT Scans. Significant improvements from previous generation models in label prediction and disease classification.</li></ul>	

## AWARDS & ACHIEVEMENTS

<b>Awards</b>	
<ul style="list-style-type: none"><li>Globalink Mitacs Canada Research Internship Award</li></ul>	2024
<ul style="list-style-type: none"><li>NUST High Achievers Award</li></ul>	2022

## **Scholarships**

- United States' Department of State Global UGRAD Scholarship 2023
- NUST Undergraduate NTF/PEEF Scholarship 2021-25

## **COURSEWORK**

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Machine Learning, Deep Learning, Linear Algebra, Distributed Computing, Probability & Statistics

### **Certifications**

- Sequences, Time Series and Prediction – DeepLearning.AI
- ETL and Data Pipelines with Shell, Airflow, and Kafka – IBM
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning – DeepLearning.AI