

Momina Liaqat Ali

[Google Scholar](#) | [LinkedIn](#) | [Portfolio](#)

Education

- **Middle Tennessee State University, Murfreesboro, TN**
PhD in Computational and Data Science
▪ Cumulative GPA: 4.0/4.0
August 2023 – May 2027
- **Pakistan Institute of Engineering and Applied Sciences (PIEAS), Islamabad**
MS in Computer Science
▪ Cumulative GPA: 4.0/4.0, **Highest Distinction**
February 2021 – November 2022
- **Pakistan Institute of Engineering and Applied Sciences (PIEAS), Islamabad**
BS in Computer and Information Science
▪ Cumulative GPA: 3.65/4.0
October 2015 – January 2020
- **Exchange student at Stephen F. Austin State University, Texas**
Department of Computer Science
▪ Cumulative GPA: 3.76/4.0, **Dean's list**
August 2018 - December 2018

Skills

- **Technical Skills:**
 - **Programming Languages:** C/C++, Python (Expert), Java (Intermediate), R (Basic).
 - **AI:** Deep Learning (Tensor Flow, PyTorch), Supervised and Unsupervised Learning, GAN, Computer Vision etc.
 - **Data Science:** Data Visualization, Data Analysis, Data Cleaning and Preprocessing.
- **Research Skills:**
 - **Problem Solving:** Strong critical thinking to solve complex problems.
 - **Research Methodology:** Scientific Literature Review, Data Collection and Analysis.
 - **Research Communication:** Ability to present research findings through presentations, reports and publications

Work Experience

- **Graduate Research Assistant**
Human Computer Interaction in virtual space using Deep Learning and OpenCV.
August 2023 – August 2024
- **Graduate Teaching Assistant**
Assisted in pure programming courses like Python, Java and C# at undergraduate level.
September 2024 – Present

Projects

- Human Computer Interaction using Virtual Reality for Lab Users
Dec. 2023 – March 2024
- Object Detection and segmentation for cancer analysis in histopathological images
Feb. 2022 – Sept. 2022
- Genetic Algorithm for Solar Energy Forecast
April 2022 – April 2022
- Ensemble technique for stock market prediction using RNNs
March 2022 – April 2022
- Malware detection and classification using autoencoder, Transfer Learning and GAN
Oct. 2021 – Dec. 2021
- Covid-19 detection in lungs using CT scan
May 2021 – Aug. 2021

Achievements and Awards

- Topped the class of 19 students and graduated with the highest distinction in MS Degree
- Among 2500 applicants, I was among top 3 who got fully funded merit scholarship by HEC for MS Degree
- Got maximum grade in my MS thesis and nominated for the best research award 2022.
- Placed on the Dean's List in SFA, Texas for my exchange semester in USA

Leadership Activities

- **Chairperson, WIE (Women in Engineering) IEEE PIEAS Student Branch** **January 2018 – August 2018**
 - Promoted STEM for girls and organized events in different schools.
 - Conducted an interactive event in which more than 70 universities from Pakistan participated.
- **Co-Founder of Girls in Coding** **March 2017 – February 2021**
 - Founded an organization to help girls learn coding.
 - Work specially for the girls of rural areas who barely have touched computers ever.
- **City Manager of Project50Kids** **October 2015 – March 2017**
 - Project50Kids works in 5 different cities in Pakistan.
 - Managed the operations of the organization in Faisalabad.
 - Worked to promote digital education among the kids.

Volunteer Activities

- Worked with driving jacks (a non-profit organization) to give safe rides to students **SFA, TX, USA**
- Worked with Purple Haze to raise funds for student's scholarship **SFA, TX, USA**
- Developed websites for different university events like TEDx PIEAS, PION, etc. **PIEAS, ICT, PAK**

Research Experience

- **Natural Human-Computer Interface Based on Gesture Recognition with YOLO to Enhance Virtual Lab Users' Immersive Feeling** **December 2023 – June 2024**
 - Published in International ASEE Conference
 - Presented my work at ASEE 2024 Conference
- **CB-HVTNet: A channel-boosted hybrid vision transformer network for lymphocyte assessment in histopathological images** **March 2023 – October 2023**
 - Published in IEEE access
- **Lymphocytes detection using a novel idea of channel boosting in pathology** **February 2022 – July 2022**
 - Published in International Conference
 - Presented my work at an IBCAST 2022 Conference
- **BERT based chatbot for discrete math course at university** **August 2022 – Sept. 2022**
 - Published in International Conference