Syed Moiz Ali

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EDUCATION

Lahore University of Management Sciences – B.S Computer Science　　　　　*2021-2025*
- **Relevant coursework:** Topics in Computer and Network Security, Deep Learning, Machine Learning, Network Security, Topics in Large Language Models, Computer Vision, Probability, Algorithms.

RESEARCH EXPERIENCE

LLM Safety Alignment　　　　　*Feb 2024 – Sep 2024*

Security & Privacy Lab, LUMS　　　　　*Lahore, Pakistan*

Collaborators: Dr. Fareed Zaffar (LUMS), Yasir Zaki (NYU Abu Dhabi)

- Investigated task-specific safety degradation in fine-tuned LLMs.
- Created a multitask safety dataset to enhance safety across downstream tasks, improving security of fine-tuned models with task-specific safety guardrails.
- Co-authored a paper under review at COLING'25

LLM-Integrated Source Code Debloating　　　　　*Mar 2024 - Present*

Security & Privacy Lab, LUMS　　　　　*Lahore, Pakistan*

Collaborators: Dr. Fareed Zaffar (LUMS), Dr. Ashish Gehani (SRI International), Dr. Sazzadur Rahaman (University of Arizona), Dr. Fahad Shaon (Google)

- Integrated LLMs with existing debloaters using a multi-agent RAG pipeline to improve security and stability in debloated software.
- Developed specialized LLM prompts to retain critical code for functionality and generality.
- Enhanced stability using LLVM coverage and code semantics, with minimal size impact.

Applied ML Intern – **Dr Zubair Khalid**　　　　　*Jun - Aug 2023*
- Developed a high-performance web scraper using selenium and multithreading, extracting **electricity consumption** data of over **3 million** users across Lahore.
- Engineered an LSTM-based time series **forecasting** model to predict **feeder overloading**, aiming to improve grid management.
- Analyzed **seasonal consumption** patterns to identify **poverty hotspots**.

EXPERIENCE

Teaching Assistant　　　　　*Sep 2023 - Present*

Lahore University of Management Sciences　　　　　*Lahore, Pakistan*

- Computer Vision Fundamentals (Fall 2024, Dr. Murtaza Taj): Designed and evaluated programming assignments and quizzes in a graduate-level course.
- CS100: Computational Problem Solving (Spring 2023, Dr. Fareed Zaffar): Conducted tutorials, graded assignments for 90 students, and offered individual support.
- CS200: Introduction to Programming (Fall 2023, Dr. Shafay Shamail): Led tutorials, graded labs and quizzes for 80 students, and provided individual assistance.

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PROJECTS

Tradesnap.ai | *MERN, Selenium, Azure Cloud, OpenAI*   *Jan 2024 – May 2024*

- Developed a conversational stock trading platform using OpenAI's Assistant to enable multilingual stock trading via chat interface
- Integrated features like buying/selling stocks, educational content, and personalized volatility alerts
- Scraped data from PSX for platform backend and built detailed company pages with advanced React charts
- Implemented automated testing for the application using Selenium to ensure platform reliability

Nighttime Wildlife Monitoring | *CycleGAN, Image Processing, OpenAI CLIP*   *Jan 2024 – May 2024*

- Developed a hierarchical model leveraging CycleGANs to enhance nighttime camera trap images for snow leopard detection
- Used OpenAI's CLIP for image classification and fine-tuned it for challenging nighttime conditions
- Collected and curated training data from the Snapshot Serengeti Database, achieving 0.95 accuracy and 0.89 F1-score

Social Media Toxicity Classifier | *Llama2, PEFT, Jigsaw Dataset*   *Jan 2024 – May 2024*

- Developed a model to detect and flag harmful social media content, fine-tuning Llama2-7B (PEFT) for toxicity classification
- Achieved 90% accuracy and an F1-score of 0.89 across 6 toxic classes using the Jigsaw Toxic Comment Classification Dataset
- Reached a ROC of 0.85, ensuring effective detection of harmful content

TECHNICAL SKILLS

- **Language:** Python, JavaScript, C++, Haskell, HTML, CSS.
- **Technologies/Frameworks:** PyTorch, TensorFlow, MERN, TypeScript, LangChain, Pandas, LlamaIndex, OpenAI Platform, Google AI Studio