

Ayesha Fazal Lashkarwala

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EDUCATION

Brandenburgische Technische Universität Cottbus

Masters of Science in Artificial Intelligence

Cottbus, Brandenburg

Graduation Date: Sep 2026

Lahore University of Management Sciences (LUMS)

Bachelors of Science in Computer Science

Lahore, Punjab

Graduation Date: Jun 2023

WORK EXPERIENCE

Technische Universität Berlin

Working Student - Data Integration and Preparation

Berlin, Germany

Jul 2025 - Present

- Curated and prepared a domain-specific dataset from Hugging Face for efficient experimentation.
- Developed a visual logging tool to streamline monitoring and analysis of Large Language Model outputs.
- Researched and evaluated inference servers to identify the most suitable solution for deployment.

Brandenburgische Technische Universität Cottbus

Student Assistant - Explainable Machine Learning

Cottbus, Germany

Oct 2025 - Present

- Developed and delivered a Python programming curriculum to 100+ enrolled students.

Spur Solutions Pvt Ltd

Associate Software Engineer

Karachi, Sindh

Dec 2023 - Sep 2024

- Integrated SignalR into a legacy .NET Framework system, optimizing real-time communication for enhanced user experience.
- Enhanced the capabilities of an established legacy system programmed on .NET Framework by integrating functionalities for two distinct roles.
- Reduced execution time by 89% by optimizing a complex stored procedure within the legacy system which supported real-time decision-making based on user-defined rules.
- Performed in-depth data analysis to standardize and harmonize system metrics, enhancing data consistency and reliability across the software platform.

Lahore University of Management Sciences (LUMS)

Data Science (CS 334) Teaching Assistant

Lahore, Punjab

Jan 2023 - May 2023

- Encouraged students to learn by organizing tutorials in Python and conducting office hours weekly.
- Aided the instructor by regularly preparing assignments and checking quizzes and assignments as well as leading a semester long project for 80+ students.

Bazaar Technologies Pvt Ltd

Product Analytics Intern

Karachi, Sindh

May 2022 - Jul 2022

- Analyzed data using Mixpanel and SQL queries to find useful insights.
- Identified discrepancies in the available data and reported them to higher authorities.

PROJECT EXPERIENCE

Lahore University of Management Sciences (LUMS)

Lahore, Punjab

Thesis - Adaptive Learning Application for Maths

Feb 2022 - May 2023

- Conducted research and created a machine learning-based system to classify and analyze common mathematical mistakes made by 220 young learners in low-resourced schools in Pakistan, identifying eight distinct mistake categories.
- Designed and implemented a machine learning pipeline using classical (Naive Bayes, Logistic Regression) and deep learning techniques, achieving up to 87% accuracy with classical models.
- Used Google Vision API for image-to-text conversion and feature extraction, creating detailed CSV files for model training and testing.
- Performed data augmentation and image processing (cropping, grayscale adjustments) to expand the dataset, improving deep learning model accuracy from 37% to 60%.
- Designed and prototyped a user-friendly web application interface (MathMate) using Figma, incorporating HCI principles, local context, and insights from extensive research on existing EdTech platforms.
- Followed a "test-first, learn-later" approach to provide personalized feedback to students, enhancing their understanding of mathematics in low-resourced environments.

Consulting Wizards - Software Engineering

Jan 2023 - May 2023

- Prepared a System Requirements Document (SRS) containing all the use cases that the system entailed.
 - Drew class, sequence, flow, and activity diagrams to understand the basic flow of the backend of the application.
 - Used Figma to design the frontend of the application and compiled all the diagrams along with the frontend design in System Design Document (SDS).
 - Used React, Express, MongoDB, Material UI, and firebase authentication to develop the application.
- Tested the application manually and automatically using Jest.

Authorship Attribution Model - Machine Learning

Nov 2022 - Dec 2022

- Scraped tweets of 600+ Twitter/X users.
- Performed data cleaning using regex library, extracted features forming the vocabulary.
- Used Laplace Smoothing to cater to any out of vocabulary words.
- Built 2-3 various machine learning models (KNN, Gradient Boosting Trees and Multi-layer Perceptron Neural network) to see which model performed the best.

Software Management System - Databases

Sep 2022 - Dec 2022

- Prepared a System Requirements Document (SRS) containing all the use cases that the system entailed.
- Drew Relational and ER Models to verify any conflicts of the system.
- Used React, JavaScript and MySQL to develop the management system.

Mask Detection System - Computer Vision

Oct 2021 - Dec 2021

- Used darknet and yolov3 to make a mask detection system.
- Developed the model to be compatible with both live as well recorded videos.

SKILLS

Technical: • Beginner: C, Haskell, MATLAB, Arduino, Assembly, LATEX Android Studio.

- Intermediate: C#, C++, Python, JavaScript, Git/GitHub, TFVS, Figma, SQL, Mixpanel, Node JS, React, HTML, CSS, Angular, MS Excel.
- Familiar with Tensorflow, PyTorch, Keras, Sklearn, SciPy, NumPy, Pandas, Matplotlib, OOP.

Soft: • Communication skills, Teaching, Leadership, Team work, Management, Design thinking, Collaboration, Time Management, Analysis, Research, Academic writing and Public speaking.

Language: • English (C2 - Native/Bilingual)

- Urdu (C2 - Native)
- German (A1 - Beginner)

CERTIFICATIONS

- Placed on Deans Honor List in LUMS from 2022-2023
- Statement of Accomplishment in the courses Introduction to R and Introduction to SQL from Datacamp.
- Placed in Deans Honor List in LUMS from 2019-2020
- Winner of the Robotics Competition 2019 hosted by the Electrical Engineering Department of LUMS