

Haris Asghar

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Education

Lahore University of Management and Sciences

BSC., Computer Science

Sep. 2020 – May 2024

CGPA: 3.58/4

KIPS College

FSC., Pre-Engineering

Aug. 2018 – May 2020

Percentage: 92.27%

Development Projects

- **Research Assistant - ChatPDF for the ML and AI Community:**
Developed a platform for conversational paper interaction, literature recommendations, and improved discovery using Streamlit, Pinecone vector database, Mixedbread's AI, and OpenAI's API
- **Vehicle Management System:**
Developed a comprehensive system encompassing registration of customers, vendors, and employees, enabled invoice creation and purchase management, and provided comprehensive sales reports and ledger generation. Implemented using Laravel, React, and MongoDB
- **Employee Attendance and Leave Management (DevSinc):**
Tracked attendance and leave to enhance productivity and reduce errors, featuring user-friendly interfaces and advanced monitoring tools. Utilized the MERN stack with MongoDB and FaceIO API
- **Interactive Online Keyboard for Children's Education:**
Created an interactive online teaching tool with a visual keyboard interface and canvas drawing capabilities, using Next.js, to facilitate engaging learning experiences for children
- **Online Rang Game Platform:**
Designed a user-friendly platform enabling real-time gameplay for up to four players with the Rang Game, using the MERN stack with MongoDB and Socket.io
- **Dashcam Footage Analysis and Visualization Project**
Enhanced the interpretation and presentation of dashcam footage through ground segmentation and top-view generation methods using homography, YOLOP, comma2k19 Dataset, and Superglue, addressing related challenges
- **Crypto Stock Market Predictor Using Tweets:**
Explored the correlation between Twitter sentiment and cryptocurrency price fluctuations using Snsrape, Beautiful Soup, and NLTK for sentiment analysis

Experience

Asia Insurance Company

Web Dev Intern

Summer 2022

- Overhauled company's website. Efficiently coordinated and managed the company's form activities

Lahore University of Management Sciences (LUMS)

Peer Ambassador

May 2022 – May 2023

- Mentored incoming students transitioning to university life. Provided guidance and support to help new students organize their workflow and navigate university courses effectively

Awards and Honors

- Ranked in the **top 15%** of LUMS SBASSE Batch of 2024 (300+ students)
- Placed on Dean's Honor List for **2020-2021**
- Served as Director of the Research Department for LUMS Data Science Society. Also served as Director of the IT Department for INDEX (The Design and Innovation Society at LUMS)

Graduate Coursework

- **CS 535 (Machine Learning): A**
- **CS 315 (Generative AI Speech Language): A-**
- **CS 436 (Computer Vision Fundamentals): A-**
- **CS 340 (Databases): A**
- **CS 334 (Principles and Techniques of Data Science): A**
- **CS 315 (Theory of Automata): A**
- **CS 202 (Data Structures): A**

Research Projects

Web Affordability

Jan. 2023 – Present

Networks Research Group @ LUMS

- Conducted a detailed study on the impact of optimized image formats, such as WEBP, compared to traditional formats on website performance. This research involved utilizing tools like Lighthouse, Google Analytics, and Apache servers, and employed A/B testing and before-and-after analysis on the LUMS website
- Developed a custom version of Lighthouse using Streamlit, which provides tailored recommendations and identifies opportunities for improvement, presenting findings in a user-friendly table format
- Analyzed the landing and internal pages of 50 Pakistani public service websites using Google's Lighthouse metrics to pinpoint areas for performance enhancement, focusing on metrics such as load time, interactivity, and visual stability

Lahore Flora Database Initiative

Aug. 2022 – Aug. 2023

CSaLT Lab @ LUMS

- Created a comprehensive dataset cataloging all plant species in Lahore. This involved collaborating on data collection methodologies and ensuring data accuracy. The process included employing data augmentation techniques and conducting an extensive literature review to support the dataset's robustness
- Implemented machine learning techniques for accurate author identification based on writing styles, using Scikit-Learn (KNN, NN, Ensemble, Random Forest, Adaboost), Snsrape, and SentenceTransformer

Teaching Experience

CS 334: Data Science

Dr. Mobin Javed

Teaching Assistant

- Managed course's Slack channel conducted tutorials and auto graded/plagiarism-checked assignments
- Held weekly office hours, conducted assignment tutorials, created/reviewed/invigilated/graded quizzes, and engaged in semi-formal student counseling

CS 210: Discrete Mathematics

Dr. Imdad Ullah Khan

Teaching Assistant

- Supported students on course's Piazza network, held weekly office hours, conducted assignment tutorials, created/invigilated/graded quizzes, created/solved practice problems, and engaged in semi-formal student counseling

CS 100: Introduction to programming

Dr. Maryam Mustafa

Teaching Assistant

- Held weekly office hours, created/graded assignments, and engaged in semi-formal student counseling

Technical Skills

Languages: C/C++, Python, TypeScript, PHP, SQL, HTML/CSS, Solidity, Haskell

Frameworks: NextJS, React, Laravel, MongoDB, MySQL, NodeJS, Streamlit, Scikit Learn, Pandas, Numpy, NLTK, YOLOP

Tools: Git, Docker, Vercel, Streamlit, Postman, WordPress, VS Code/Cursor, GPTs, Excel, MATLAB, Lighthouse, Creo