

USHNA MALIK

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EDUCATION

Lahore University of Management Sciences (LUMS)
BS in Computer Science - *Grade: 3.66*

August 2021 - July 2025

Stanford University
Undergraduate Summer Semester Candidate - *Grade: 3.69*

June 2023 - August 2023

ACHIEVEMENTS

Placed on the Dean's Honor List for the academic year 2021-22

Placed on the Dean's Honor List for the academic year 2022-23

Placed on the Dean's Honor List for the academic year 2023-24

WORK EXPERIENCE

Stanford University, California
Student Service Provider

June 2023 - August 2023

Collaborated with the Office of Accessible Education to curate accessible lecture materials for the COMM 102S (Deception and Technology) class. Assisted instructors in developing future course modules to address the diverse needs of the student population.

LUMS, Pakistan
Teaching Assistant

August 2023 - Present

Served as a teaching assistant for Data Structures, Data Science and Discrete Mathematics courses. Designed problem sets, exam questions, and assignments. Conducted weekly recitations to help students with in-class material.

Certificate in Health Professions Education (CHPE), Pakistan
Teaching Assistant

August 2024 - Present

Currently assisting in delivering the data science module tailored for health professionals under the CHPE program at LUMS. Providing support in lesson preparation, facilitating hands-on data analysis sessions, and guiding participants in applying data science techniques to healthcare scenarios.

PROJECTS

AI-Driven Political Persuasion: Generating and Mitigating Manipulative Campaigns

This ongoing senior year project explores generating manipulative video-based political persuasion campaigns using large language models to assess their influence on public opinion. The project will then focus on developing interventions to detect and mitigate the impact of such AI-driven content.

LLM-Driven Contextual Music Retrieval

This research project explores the development of an advanced music retrieval system using LLMs to map YouTube comments to music. It seeks to enable context-aware searches, enhancing music discovery beyond traditional genre and artist tags for a more personalized experience.

Gamified Misinformation Interventions for the Global South

This research project focuses on developing gamified solutions to counter misinformation in regions

with low digital literacy. By integrating narrative-driven gameplay and reward-based systems, it aims to enhance digital literacy and empower users to detect misinformation. The game incorporates inoculation strategies and real-time tips, with ongoing refinements to improve its impact on digital education in vulnerable populations.

Evaluating GPT-01: Advancing AI with Chain-of-Thought Reasoning

This research investigates GPT-01’s performance in trivia databases, focusing on how chain-of-thought reasoning can improve accuracy and adaptability. A comparative analysis with traditional models seeks to uncover significant advancements in AI reasoning for complex knowledge tasks.

Security Vulnerability Testing and Prevention via OS and Network Exploitation

This project focuses on acquiring practical experience with techniques for exploiting security vulnerabilities in operating systems and network servers. The primary goal is to gain insight into program runtime operations and understand the nature of security weaknesses in order to prevent them in system code development.

SKILLS AND INTERESTS

Languages	Python, C++, MySQL, Haskell, TypeScript
Libraries	NumPy, Pandas, Matplotlib, Seaborn, Scikit-Learn, OpenCV, Keras, Pytorch, Selenium
Misc	MS Excel, LATEX, Git

RELEVANT COURSES

- Topics in Large Language Models : Pending
- Topics in Internet Research : A
- Deception and Technology : A+
- Network Centric Computing: A
- High Performance Computing AI: A+
- Machine Learning: B+
- Data Science: A-
- Introduction to Human Behaviour: A

EXTRA-CIRRICULAR

- Peer Ambassador for Social Support:** Mentored first-year students, supporting their academic and social integration into university life.
- Brand Ambassador, CardPay:** Promoted CardPay, a startup focused on making LUMS a cashless campus.
- Assistant Director, Social Media Department, Photolums:** Managed social media outreach for a student-led photography society at LUMS.
- Student Volunteer, King Edward Medical University:** Volunteered in the Accident and Emergency Department during COVID-19, assisting healthcare professionals with patient care and infection control.