Abdullah Ghani

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Education

Lahore University of Management Sciences Sep 2021 – July 2025
B.Sc. in Computer Science *CGPA: 4.00/4.00; CS Only: 4.00/4.00 (Joint Highest, 1/274)*

- ***Relevant Coursework — Graduate:*** *Distributed Systems, Network Security, Machine Learning, Topics in Large Language Models, Topics in Computer & Network Security;* ***Undergraduate:*** *Network-Centric Computing, Principles and Techniques of Data Science, Statistics and Data Analysis, Operating Systems.*

LGS Defence Sep 2019 – Aug 2021
A Level, Cambridge International Examinations *Grades: 5 A*s*

Publications

Scaling Truth: The Confidence Paradox in AI Fact-Checking.
Ihsan Ayyub Qazi, Zohaib Khan, Abdullah Ghani, Agha Ali Raza, Zafar Ayyub Qazi, Wassay Sajjad, Ayesha Ali, Asher Javaid, Abdullah Sohail, Abdul Hameed.
Nature Scientific Reports; *Accepted.*

PixelConfig: Longitudinal Measurement and Reverse-Engineering of Meta Pixel Configurations.
Abdullah Ghani, Yash Vekaria, Zubair Shafiq.
Internet Measurement Conference (IMC) 2025; *One-shot revision.*

Advertisers, Provenance, and Policy: A 30-Country Audit of Children's YouTube Ads.
Abdullah Ghani, Yahya Khawaja, Usman Naseem, Ihsan Ayyub Qazi, Zafar Ayyub Qazi.
The ACM Web Conference (WWW) 2026; *Under review.*

Research Experience

Lab Lead, Internet, Data, and Society Lab @ LUMS June 2023 – Present
Advisors: Dr. Ihsan Ayyub Qazi, Dr. Zafar Ayyub Qazi

Scaling Truth: The Confidence Paradox in AI Fact-Checking *June 2023-June 2025*

- Systematically evaluated 9 LLMs on 5,000 fact-checked claims across 47 languages, leveraging 240K+ expert annotations from 174 fact-checking organizations with multiple prompting strategies, ensuring an ecologically valid setting.
- Identified multilingual and regional disparities, including a Dunning–Kruger-like effect: smaller, accessible models were highly confident yet less accurate, while larger models were more accurate but less confident.
- Established a multilingual benchmark dataset and provided policy-relevant insights for equitable, AI-assisted fact-checking; findings accepted for publication at *Nature Scientific Reports.*

Advertisers, Provenance, and Policy: A 30-Country Audit of Children's YouTube Ads *May 2025-Oct 2025*

- Conducted the first systematic, advertiser-level audit of children's YouTube ads, analyzing 22,760 ad impressions from 2,928 advertisers across 30 countries.
- Revealed key risk factors in the ad ecosystem, finding that children in low-policy regions face 3.6x more inappropriate exposure and unverified advertisers are 3-4x more likely to serve such content.
- Developed a metadata-based machine learning classifier that achieved 83.8% accuracy for automated detection, with findings submitted to *The Web Conference (WWW) 2026.*

Ongoing Research Projects *Jan 2025 – Present*

- Evaluating the clinical fidelity of LLMs on real-world medical vignettes; *findings targeted for BMJ Digital Health & AI.*
- Conducting a systematic, cross-platform analysis of the spread and engagement dynamics of disinformation during a geopolitical conflict.
- Investigating the reasoning behaviors and regional biases manifested when using LLMs as participants.

Breakerspace Lab @ UC Davis (Remote) June 2024 – May 2025
Advisors: Dr. Zubair Shafiq, Dr. Fareed Zaffar

PixelConfig: Longitudinal Measurement and Reverse-Engineering of Meta Pixel

- Developed *PixelConfig*, a framework to reverse-engineer Meta Pixel configurations and longitudinally analyze 18K health and 10K control websites (2017–2024) using Wayback Machine.
- Found near-ubiquitous adoption of default tracking features (98%+), enabled by Meta's dark patterns and defaults.
- Revealed collection of sensitive health data (e.g., mental and sexual health) and limitations of Meta's restriction features.
- Open-sourced *PixelConfig* and datasets; findings offered a *one-shot revision* decision after highly encouraging reviews at *IMC 2025*.

Selected Development Projects

Distributed, Fault-Tolerant Key-Value Store *Go*

- Engineered a distributed key-value store, implementing the Raft consensus algorithm from scratch to ensure fault tolerance through leader election and persistent log replication.

Virtual UNIX File System *C*

- Implemented a UNIX-like virtual file system, managing file metadata and content via a partitioned architecture of superblocks, inodes, and data blocks to support core I/O operations.

User-Level Threading Library *C*

- Developed a lightweight threading library enabling application-level context switching by directly managing CPU registers and process control blocks (PCBs).

Succession Planning Software *MERN Stack, TensorFlow*

- Built a full-stack application with a TensorFlow-based predictive model to identify high-potential employees for leadership roles based on performance data.

PakStay Advisor *Python*

- Developed a predictive model using traditional ML models on scraped hotel data to evaluate offers, providing profitability and reliability insights for travelers and managers.

Teaching Experience

CS 6303: Topics in Large Language Models — Dr. Ihsan Ayyub Qazi Fall 2025 (Ongoing)

- Mentoring semester-long research projects on large language models, including topics related to misinformation, digital health, and systems to 50+ graduate and undergraduate students.
- Designing assignments incorporating RAG and multi-agentic workflow to introduce students to the basics of LLM design.
- Holding weekly office hours and maintaining the course Slack channel to support collaboration and Q&A.

CS 334: Data Science — Dr. Ihsan Ayyub Qazi Fall 2024

- Guided student projects on causal inference, data wrangling, visualization, and machine learning applications.
- Coordinated course logistics: managing communication channels, preparing assignments, and assisting in grading.
- Provided one-on-one mentoring and counseling to 150+ students during weekly office hours.

CS 202: Data Structures — Dr. Ihsan Ayyub Qazi Spring 2024

- Supported student learning through office hours and detailed assignment guides for a class of 100+.
- Administered and graded programming assignments, quizzes, and exams.

CS 210: Discrete Mathematics — Dr. Malik Jahan Fall 2023

- Held office hours, graded assignments/quizzes, and provided academic counseling for 100+ undergraduates.

Skills

Languages: C/C++, Python, Haskell, Go, JavaScript, TypeScript, SQL, Bash, MATLAB, HTML/CSS

Tools and Frameworks: React, Node.js, Selenium, Pandas, NumPy, TensorFlow, PyTorch, Git, Docker

Awards & Achievements

Full Merit Scholarship & Top 1% Ranking: Awarded annually to one of the top 3 students in the LUMS SBASSE program (260+ students) for three consecutive academic years (2022-2025). Consistently ranked in the top 1% of the cohort.

Dean's Honor List: Recognized for academic excellence for four consecutive years (Fall 2021 – Spring 2025).

Graduated with High Distinction: Acknowledged for outstanding, top-tier academic performance upon graduation.

National Mathematics Talent Contest Finalist: Shortlisted for the final round to represent Pakistan at the International Mathematical Olympiad (IMO).