

# Abdullah Ghani

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## EDUCATION

**Lahore University of Management Sciences**  
*B.Sc. in Computer Science*

Sep 2021 – July 2025  
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**  
*A Level, Cambridge International Examinations*

Sep 2019 – Aug 2021  
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.

*International AAAI Conference on Web and Social Media*; Under review.

## RESEARCH EXPERIENCE

### Lab Lead, Internet, Data, and Society Lab @ LUMS

*Advisors: Dr. Ihsan Ayyub Qazi, Dr. Zafar Ayyub Qazi*

June 2023 – Present

#### 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)

*Advisors: Dr. Zubair Shafiq, Dr. Fareed Zaffar*

June 2024 – May 2025

### 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

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### 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

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### 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

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**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

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**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).