MUHAMMAD JAZLAN

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EDUCATION

PhD., Computer Science, University of California, Davis — Expected 2029
Research: Tracking, User Privacy and Security, LLMs

BSc., Computer Science, Lahore University of Mangement Sciences — 2020 - 2024
Relevant Coursework: Topics in Internet Research, Distributed Systems, Machine Learning, Operating Systems, Network Security

RESEARCH EXPERIENCE

Graduate Student Researcher — August 2024 - Present
University of California, Davis — *Davis, USA*

- Creating a framework for the detection of server side tagging
- Developing a novel DVFS-based hardware fingerprinting mechanism
- Reverse engineering the Google Tag Manager data layer
- Developed a general anti-tracking framework with fine-tuned LLMs

Research Assistant — May 2023 - July 2024
Networks Research Group @ LUMS — *Lahore, Pakistan*

- Designed and developed a low-latency datastore optimzed for Multi Access Edge Computing.
- Lead a research project on a Cognitive Study of early LLMs (GPT 3.5, Bard, LLaMA).
- Trained an LSTM model for Handover and Base Station Prediction, achieving 97%+ accuracy on a High Speed Rail Dataset.

RESEARCH PROJECTS

Detecting Server Side Tagging — June 2025 - Present
UC Davis — *Davis, CA*

- Crawled Tranco top 50k websites to collect data and ground truth for server side tagging
- Trained various ML models (decision trees, XGBoost, Logistic Regression) across different modalities (network requests, storage, cookies etc) for automated detection
- Poster accepted at USENIX 2025.

WebLLM - Adapting LLMs for Anti Tracking — Sep 2024 - July 2025
UC Davis — *Davis, CA*

- Designed a multi-modal LLM pipeline with text and graphs, using tiny LLMs (Gemma 1b and 4b) for a generalizable tracking detection framework
- Achieved accuracy close to state of the art models (95.4% for network requests)
- Presented a poster at PETS 2025

A Low Latency Datastore for MAEC in Next Gen Networks — Sep 2023 - August 2024
Networks Research Group @ LUMS — *Lahore, Pakistan*

- Designed and developed a Low Latency Datastore aimed at minimizing application downtime during data migration processes.
- Created a Rapid Queue Algorithm to preserve frequency-based ordering without sorting

- Implemented custom protocols to mitigate network overhead associated with data migration while reducing latency.
- Implemented a prototype in Python and benchmark-ed against Redis, achieved similar performance.

Base Station Prediction using RAN Information in 5G MAEC Jun 2023 - Sep 2023
Networks Research Group @ LUMS *Lahore, Pakistan*

- Implemented a data processing pipeline in Python to convert RAW `rsrp` and `rsrq` readings to a format readable by a PyTorch LSTM model
- Achieved an accuracy of over 97% on a High Speed Rail dataset

Cognitive Study of Large Language Models Jan 2023 - Aug 2023
Networks Research Group @ LUMS *Lahore, Pakistan*

- Led a research project employing the two-system model of human cognition to analyze multiple Large Language Models (LLMs).
- Developed a diverse dataset featuring various adaptations of Cognitive Reflection Test (CRT) questions sourced from accredited journals.
- Utilized official APIs for GPT-3.5, GPT-4, and Bard, alongside online versions of LLaMA (13b and 70b) to collect data.
- Findings indicated GPT-4.0 as the most accurate in providing correct answers, although notable instances of incorrect responses were observed.

TEACHING EXPERIENCE

Graduate Teaching Assistant August 2024 - Present
University of California *Davis, California*

- **ECS 152A - Introduction to Networks** in Fall Quarter 2024 with Dr Zubair Shafiq
- **ECS 32A - Introduction to Programming** in Spring Quarter 20225 with Dr Zubair Shafiq

Teaching Assistant January 2022 - May 2024
LUMS *Lahore, Pakistan*

A list of courses I have assisted with

- **CS 382 - Network Centric Computing** in Spring 2024 with Dr Zafar Ayub Qazi
- **CS 370 - Operating Systems** in Fall 2023 with Dr Hamad Alizai
- **CS 382 - Network Centric Computing** in Spring 2023 with Dr Zafar Ayub Qazi
- **CS 200 - Introduction to Programming** in Fall 2022 with Dr Muhammad Awais
- **CS 210 - Discrete Mathematics** in Fall 2022 with Dr Imadadullah Khan

I also assisted with the course design of **CS 200 - Introduction to Programming** for Fall 2024 with Dr Zartash Afzal Uzmi.

AWARDS AND HONORS

- Recipient of PETS 2025 Travel Grant.
- Awarded the NSF 'Protecting Personal Data Flow on the Internet' fellowship
- Graduated with Distinction (LUMS Class of 2024)
- Placed on Deans Honor List for **2020-23**
- Top 50 in Pakistan for Mathematics in the National Science and Talent Contest

PROFESSIONAL EXPERIENCE

Consulting Developer Jan 2024 - September 2024
Kavelogics *Lahore, Pakistan*

- Served as the lead consultant and chief systems architect for Kavelogics, a software firm in Pakistan
- Developed the Kavelogics website

Lead Developer Sep 2023 - Jan 2024
Studio Lichi *Lahore, Pakistan*

- Served as the lead web developer for Studio Lichi
- Developed a website, blog and store using NextJS, Sanity CMS and Shopify

DEVELOPMENT PROJECTS

GEM 5 Simulations Created various GEM 5 simulations to study the effect of cache, memory and micro-architecture on the performance of a system.

Kavelogics Website Designed and developed the Kavelogics website using NextJS 14. It contains an admin panel that acts like a CMS for adding WYSIWYG content. The site contains SEO optimizations and has a 100 Lighthouse score.

User Level Threading Library Created a user-level threading library in C, using concepts of registers, context switching and scheduling. I made use of the `setjmp` library to provide the illusion of context switching. This project was eventually used as a template for a course assignment in Operating Systems.

Ingate Delivery App Built a mobile app using React Native, FastAPI and MongoDB for university students. Students can place orders to choose orders to deliver, all on the same platform, while charging a fee for delivery. 8 out of 10 users chose to use our app in a university-wide survey.

SKILLS

Languages	Python, Javascript/Typescript, C, C++, Go, Bash
Frameworks	React, FastAPI, Tensorflow, PyTorch, MongoDB, Postgres, Playwright, Selenium
Tools	Linux, Git, TailwindCSS, Shadcn, Wordpress, Docker, AWS, DigitalOcean, Vercel