

Mujeeb Asad

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EDUCATION

Lahore University of Management Sciences (LUMS)

Lahore, Pakistan

Bachelor of Science in Computer Science, Senior Year

Aug 2023 to May 2027

- **Relevant coursework:** Deep Learning, Advanced Topics in Machine Learning, Advanced Generative AI & Agents, Agentic AI Systems with LLMops, Computer Vision, AI & Machine Learning, Data Science, Applied Stochastic Processes, Probability, Linear Algebra & Differential Equations, Financial Econometrics, Algorithms, Operating Systems, Software Engineering, Network-Centric Computing, Discrete Mathematics

EXPERIENCE

Systems Limited

Lahore, Pakistan

VSI Data Analytics Intern

Jun to Jul 2026

- Built backend services for **GoFinn**, a portfolio-optimisation fintech platform currently in private beta, with the Application & Cloud Development team: **Kotlin** and **Spring Boot** over **Supabase**, with backend processing on Oracle Cloud ARM compute (Ampere Altra).
- Started in data analytics working hands-on in **SQL** and SQL Server Management Studio, then changed departments on my own initiative in a mentorship-style program.

PROJECTS

Convolutional Latent Attention for Efficient Vision Transformers | *PyTorch* | [code](#)

Spring 2026

- Solo research project with a full research [paper](#). Designed an attention block that compresses a feature map with depthwise-separable convolutions, runs self-attention inside that compressed space and decodes back through a gated residual, so the network sees the **whole image in its early layers** where comparable mobile models see a 7-pixel window.
- Trained from scratch on ImageNet-100 at edge scale (**2.8M params, 1.1 GMACs**) to **81.5% top-1, +4.6 points** over a MobileViT-XS baseline run under identical settings and +3.5 over MobileViTv2-0.75.

Agentic LLM Systems: Orchestration, Memory & Tooling | *LangGraph, MCP, Databricks*

Summer 2026

- Built a **multi-agent system** in LangGraph (planner, supervisor, retrieval and tool specialists, synthesizer) that splits a question into steps and routes each by type: prose to retrieval, tables to a **natural-language-to-SQL** node, arithmetic to exact functions.
- Served tools over **MCP**, then moved them onto **governed Unity Catalog functions** with scripted permissions and audit trails. Added durable checkpointing and embedding-backed memory, isolated per user so errors never reveal another user's records.
- Wrote the retrieval layer from scratch: **semantic chunking, reciprocal rank fusion** across rephrased queries, repeat-safe ingestion, and a guard that declines to answer when nothing relevant is found. Deployed to a live endpoint behind **CI/CD** with a typed client SDK; an **LLM-as-judge suite** scored **0.9 correctness, 1.0 groundedness, 1.0 relevance**, and two changes measuring no gain were reverted.

3D Scene Reconstruction & Virtual Tour | *OpenCV, Open3D, Three.js* | [live demo](#)

Fall 2025

- Turned ordinary photographs of a store into an interactive 3D tour with a **Structure-from-Motion** pipeline: SIFT feature matching, RANSAC camera-pose estimation, triangulation, incremental PnP and **Bundle Adjustment** to remove accumulated drift, viewed through a Three.js front end.

BetterCAPS: Mental Health Appointment Platform | *Java, Android, Firebase*

Spring 2026

- Lead contributor of 5 in a Scrum team. Built the student dashboard, appointment booking made safe against double-booking by atomic transactions, cached counselor search and a matching quiz, with unit and UI tests.

32-bit x86 Operating System Kernel | *C, x86 Assembly*

Fall 2025

- Built solo over a semester, each layer resting on the correctness of the last: interrupts, virtual memory with paging, processes, context switching, scheduling, system calls, user-mode separation and a file system.

LEADERSHIP

Director of Logistics, SPADES: Led the logistics team managing inventory and procurement against a 60 lakh PKR budget for PSIFI, the society's flagship event.

Asst. Director of Logistics, LUMUN | Director of Registrations, LUMS Chess Club: purchase workflows, inventory tracking and merchandise sales; school outreach and tournament registrations.

TECHNICAL SKILLS

Languages: Python, SQL, C, C++, Java, Kotlin, TypeScript, Haskell, x86 Assembly, MATLAB

ML & Vision: PyTorch, TorchVision, OpenCLIP, OpenCV, Open3D, NumPy, pandas, scikit-learn

LLM & Agents: LangChain, LangGraph, MCP, MLflow, pgvector, Databricks Vector Search, n8n

Backend & Platforms: Spring Boot, Node.js, Express.js, Supabase, MongoDB, Firebase, SQL Server, Databricks, Oracle Cloud, Docker, Git, GitHub Actions, Linux