# ANAM IQBAL

(801) 865 8695 • u1529172@utah.edu • linkedin.com/in/anamiqbaldataanalyst • github.com/anam181

## EDUCATION

**University of Utah, Kahlert School of Computing**                                                  **2024 – 2026**
*Master of Science in Computing; (GPA: 3.74)*

*Relevant coursework: Wireless Networking and Systems, Distributed Systems, Advanced Database Systems, Data Mining, Network Security, Graduate Algorithms*

**Lahore University of Management Sciences (LUMS)**                                          **2016 – 2020**
*Bachelor of Science (Honors) in Management Science and Computer Science; (GPA: 3.54)*

### RESEARCH INTERESTS

Distributed networking systems; Storage and Caching; Tiered Memory; Key-Value (KV) Stores; Measurement and Observability; Fault Tolerance.

## RESEARCH EXPERIENCE

**FLUX Research Group, University of Utah (Prof. Jacobus Van der Merwe)**                                **Dec 2025 – Present**
*Measurement workflows for open 5G stacks and mobility behavior*

- Building a repeatable handover measurement pipeline on POWDER using srsRAN, Nemo logs, and the attenuation matrix.
- Defining disruption metrics and datasets around handover windows, and shaping a student workflow to train and validate link adaptation policies such as modulation and coding scheme control.

**Systems and Storage Group, University of Utah (Prof. Ryan Stutsman)**                                **Aug – Dec 2025**
*ObjecTier and Segcache: measurement-driven memory tiering and hot-object consolidation*

- Extended Segcache with a stable scan interface for background analysis while preserving time-to-live (TTL) expiration behavior.
- Added epoch-scoped hit counters to estimate recency-weighted hotness, then aggregated hotness at both segment level and 4 KiB (kibibyte) page level.
- Built a Python trace-replay and analysis pipeline to summarize skew with distributional views (for example, cumulative distribution functions) and guide placement decisions.
- Produced evidence for cold-bytes amplification by analyzing 4 kilobyte pages in Segcache's hottest segments, showing persistent hot–cold colocation that motivates hot-object consolidation.

## PROJECTS

**Fault-Tolerant Key-Value Service on Raft (Go)**                                                  **2024**
*Replicated service with linearizable semantics under failures*

- Implemented the end-to-end path from client requests to committed state-machine application using Raft log agreement.
- Made retries safe with unique client and request identifiers plus server-side deduplication for exactly-once behavior.
- Integrated snapshotting by persisting both KV state and deduplication metadata so crash recovery and log compaction preserve correctness.

**Disk-Based Key-Value Store (C++)**                                                              **2024**
*Be-tree index with checkpointing and recovery*

- Logged updates before applying them and tracked dirty state to support crash consistency.
- Flushed modified pages to persistent storage before checkpoint finalization and recovered by replaying the log from the latest checkpoint.
- Benchmarked read/write trade-offs under different persistence granularities.

## INDUSTRY EXPERIENCE

**Dubizzle Group — Senior Data Engineer**                                    **Jan 2024 – Aug 2024**
*Dubai, United Arab Emirates*

- Designed scalable ETL workflows using AWS Redshift and Matillion, reducing data processing time by 40% and improving query performance by 30%
- Constructed an efficient ODL architecture for Bayut KSA, streamlining integration and reducing manual intervention.

**Jazz (Veon Group) — Intermediate Analytics Engineer**                      **Jun 2022 – Jan 2024**
*Islamabad, Pakistan*

- Led a cross-functional squad delivering a geographic location optimization model across 13 data marts, generating $1M+ in impact.
- Built application programming interface (API) performance dashboards, saving 5+ hours per week in reporting.
- Developed high-availability (HA) REST APIs backed by MySQL and Keepalived, sustaining 99% availability for campaign execution.
- Operated large-scale stream and batch pipelines on Apache Spark and an on-prem object store, focusing on monitoring, failover, and failure recovery.

**Jazz (Veon Group) — Associate Analytics Engineer**                         **Oct 2020 – May 2022**
*Islamabad, Pakistan*

- Built 12+ ETL pipelines using Teradata, shell scripting, and Informatica to ingest 500+ gigabytes (GB) of batch data.
- Automated 30+ business intelligence reports in Tableau and MicroStrategy, reducing manual workload by ~25%.
- Designed executive dashboards by integrating seven data sources to track JazzCash Merchant App key performance indicators.

## TEACHING AND LEADERSHIP

**Lahore University of Management Sciences (LUMS) —**                         **2019 – 2020**
**Teaching Assistant**
*Mentored 500+ students across four courses; led review*
*sessions, office hours, grading, and project guidance.*

## SKILLS

Languages: Python, Go, C++, Java, SQL, shell/Bash scripting.
Systems and data: Apache Spark, object storage, extract-transform-load (ETL), data warehousing, REST APIs, Amazon Web Services (AWS) (Redshift, Simple Storage Service (S3)).
Tools: Matillion, Teradata utilities, Informatica, Tableau, MicroStrategy, Git, Linux.

## HONOURS AND AWARDS

- Divisional Champion Award (Jazz, Q4 2021).
- Dean's Honour List (LUMS).