Mughees Ur Rehman

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EDUCATION

Virginia Tech *August 2024 - May 2026 (Expected)*
MS Computer Science and Applications

Lahore University of Management Science (LUMS) *Sept 2020 - May 2024*
BS Computer Science | CGPA: 3.97
Relevant Coursework: Software Engineering, Distributed Systems, Network Security, Machine Learning, Computer Vision, Deep Learning

TECHNICAL SKILLS

Languages/Frameworks: Python, C/C++, GoLang, JavaScript, TypeScript, ReactJS, NodeJS, Express, React-Native
Databases: MongoDB, MySQL
Developer Tools: VS Code, Android Studio, Jupyter Notebook, Google Colab, MATLAB, Selenium

PROFESSIONAL EXPERIENCE

Research Intern | **Summer@ EPFL** | *Lausanne, Switzerland* *May 2024 – August 2024*
- Conducted research at the [Network Architecture Lab](#) (NAL) under the supervision of Dr. [Katerina Argyraki](#), focusing on Internet measurements and network system designs.
- Developed web crawlers using selenium for various video streaming sites to collect data on internet performance and analyze caching strategies used by CDN.

Software Engineering Intern | **Motive** | *Lahore, Pakistan* *Nov 2023 – April 2024*
- Collaborated with cross-functional teams, including product, design, and backend, to develop end-to-end solutions and deliver scalable platforms.
- Worked closely with the design team to implement user-centered improvements, enhancing the platform's interface to better meet client and user needs.

Technical Content Engineering Intern | **Educative** | *Lahore, Pakistan* *June 2023 – August 2023*
- Authored technical content on computing topics, including Artificial Intelligence, Web and Mobile Development, Networks, Security, and Applied Mathematics: ([Educative Profile](#))
- Deployed Docker containers in articles and courses to create code playgrounds for developers.
- Recognized with a certificate of excellence for exceptional performance.

Student Researcher & Teaching Associate | **LUMS** | *Lahore, Pakistan* *June 2022 – May 2024*
- Served as a Teaching Associate for Graduate-level courses.
- Conducted weekly progress meetings to support student understanding and track their progress.
- Initiated a project at the Networks and Systems Group LUMS ([NSG](#)), focused on optimizing server state migration during handovers in 4G/5G networks.

PROJECTS

Distributed Datastore for Edge Applications *August 2023 – May 2024*
- Designed and developed a distributed datastore for 5G architecture, focusing on optimizing state migration in edge applications to enhance performance and efficiency.
- Conducted benchmarking analysis against established distributed data stores like Redis, demonstrating better performance in handling requests.

RetiScan *August 2023 - May 2024*
- Designed a federated learning system for efficient retinal vessel segmentation and diabetic retinopathy detection.
- Conducted real-time testing with insights from ophthalmologists. The project won awards at local and national levels.

LingoBot *October 2023 – Jan 2024*
- Developed an Urdu voice chatbot and storyteller using Generative AI for creating interactive stories and grammar exercises. Built the interface in React with a Python backend to aid Urdu language learning.

Energy Monitoring Mobile Application – LUMS Energy Group *January 2023 – May 2023*
- Developed a mobile application using React Native, Node, Express, and MongoDB.
- Empowered users by providing real-time tracking and monitoring capabilities, offering a solution to manage and optimize their energy consumption.

Authorship Attribution of Twitter Users *September 2022 – December 2022*
- Designed a Neural Network model to identify Twitter users from their tweets.
- Integrated the **twint** API in Python to gather Twitter data and adjust parameters to build the dataset.

Raft - Consensus Algorithm *September 2022 – December 2022*
- Implemented the Raft consensus algorithm, including leader election and log replication in the Go language.
- Created a distributed data store using Raft, efficiently managing multiple client requests with a single Raft instance.
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HONOURS & AWARDS
- Awarded the LUMS Merit Scholarship Award for (2021 - 2024)
- Graduated with the Award of High Distinction, ranking 2nd in my batch of 180 students.