SYED MUHAMMAD ALI NAWAZISH

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EDUCATION

Lahore University of Management Sciences (LUMS)   September 2018 - July 2020
Masters in Computer Science; CGPA: 3.68
Relevant Courses: Distributed Systems, Design and Analysis of Algorithms, Computer Vision, Network Security and Internet of Things
Advisors: Dr. Zafar Ayyub Qazi and Dr. Taqi Raza

COMSATS, Lahore   February 2013 - June 2017
Bachelors in Software Engineering; CGPA: 3.4
Relevant Courses: Data Structures, Algorithms, Object Oriented Programming, Databases, Web Technologies, Data Mining and Data Warehousing
Advisors: Dr. Salman Khan

PUBLICATIONS

- **A Low Latency and Cellular Control Plane**
  Mukhtiar Ahmad, Syed Usman Jafri, Azam Ikram, Wasiq Noor Ahmad Qasmi, **Muhammad Ali Nawazish**, Zartash Uzmi, and Zafar Ayyub Qazi **- SIGCOMM 2020 (rank A*) (accept. rate = 22%)**
- **Fast EPC: A Low Latency Cellular Control Plane (poster)**
  Mukhtiar Ahmad, Wasiq Noor Ahmad Qasmi, Syed Usman Jafri, Ridah Naseem, **Muhammad Ali Nawazish**, Muhammed Azam Ikram, Zartash Uzmi, and Zafar Ayyub Qazi **- SIGCOMM 2019 (rank A*)**

EXPERIENCE

Zong Research Lab - LUMS   July 2020 - Present
Research Associate

- Designing and developing a system to detect attacks in 5G system using learning algorithms. **(Work in-progress)**
- Developed a new 5G system to enable latency-critical applications. **(Work under-review at NSDI 2022)**
- Developed a new edge-based 5G system for better load-balancing. **(Work under-review at IEEE/ACM Transactions on Networking)**

Zong Research Lab - LUMS   February 2019 - June 2020
Research Assistant

- Encoded 5G cellular messages with **ASN.1** serialization and compared them with a new **Flat-Buffers** serialization scheme.
- Designed a fast packet processing system leveraging **Intel's fifth generation** user plane function and improved the user-perceived latencies by up to **10x**.

COMSATS, Lahore   October 2017 - August 2018
Software Engineer

- Designed and developed a **plagiarism detection** module for university assignments using a novel **string matching** algorithm.
- Designed and developed a **graph-based semantic similarity** for finding structural similarity of C/C++ source codes using **Clang** compiler APIs.

PROJECTS

- **Computation Offloading:** Conducted a feasibility study of computation offloading of multiple IoT applications under **Edge computing** paradigm.
- **Panorama Generator:** Developed an Android and web-based solution for panoramic pictures creation using Computer vision concepts.
- **Bitcoin Miner:** Developed a distributed system that mimics the **Bitcoin's** mining algorithm.
- **Paxos:** Developed a fault-tolerant, distributed algorithm for reaching consensus using Golang.
- **OLAP Cube:** Created an approach for multi-dimensional data analysis using a Java-based automatic query builder.

AWARDS

- **Research Assistantship:** Awarded for outstanding performance in distributed systems course in master's.

SERVICE

- Participated in DICE competition at COMSATS Sahiwal, 2016
- Participated in DICE competition at COMSATS Lahore, 2017