

Haseeb Ashfaq

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Anticipated Graduation Date: 05/26

EXPERIENCE

Nokia

Networking Research Intern

June 2023 – August 2023

New Jersey, USA

- Developed (in C++, Unix) a streaming service for AR/VR content for heterogeneous networks
- Implemented a resource-efficient transcoding mechanism for volumetric videos that achieved 75% CPU savings
- Developed an encoder/decoder for point cloud data that can tolerate packet losses in the network which enabled utilising unreliable transport protocol (UDP) instead of TCP for point cloud streaming
- Implemented a mixed-reliability transmission protocol using QUIC streams and datagrams (with Cloudflare's Quiche)

Systems Group NYU

Graduate Research Assistant

June 2022 – June 2023

New York, USA

- Developed a trace-aware access control for microservices; a step towards zero-trust microservices' security
- Designed and implemented a special priority queue, LOQ, for cloud hosted financial exchanges, that enhances a matching engine's throughput by up to 150% and lowers latency by 90%. LOQ brings HFT closer to migration to the cloud.

PosterMyWall

Software Engineer (Full Time)

June 2020 – August 2021

Lahore, PK

- Designed and implemented, in PHP and JS, an access control system for internal tools of the company
- Setup CI/CD pipeline along with testing infrastructure using TeamCity and AWS
- Automated AWS-hosted development infrastructure, shortening the testing cycle time by more than 50%
- Secured the product website by eliminating critical vulnerabilities (XSS, CSRF, IDOR) and did backend development
- A recommendation letter from my manager describing me as an exceptional engineer is available on [LinkedIn](#)

EDUCATION

PhD and MS, Computer Science

New York University, New York, USA

Sept. 2021 – May 2026

GPA: 4.0/4.0

Thesis Focus: Distributed Systems, Networks, Cloud Computing, Microservices, Financial Technologies

Bachelor of Science, Computer Science

Lahore University of Management Sciences, Lahore, Pakistan

Sept. 2016 – May 2020

GPA: 3.7/4.0

Courses: Algorithms, Data Structures, Distributed Systems, Computer Networks, Machine Learning

RESEARCH PAPERS

Design and Implementation of a Scalable Financial Exchange in the Public Cloud

[\[Arxiv Link\]](#)

Muhammad **Haseeb**, Jinkun Geng, Ulysses Butler, Xiu Hao, Daniel Duclos-Cavalcanti, Anirudh Sivaraman

A Scalable and Fair Multicast for Financial Exchanges in the Cloud

ACM Sigcomm Demos & Posters (Presented a poster in Sydney, Australia) [\[Link\]](#)

Muhammad **Haseeb**, Jinkun Geng, Ulysses Butler, Xiu Hao, Daniel Duclos-Cavalcanti, Anirudh Sivaraman

QuEST: Fast, Expressive, and Cheap Analytics for Distributed Traces Using Cloud Storage

CloudDB, a VLDB workshop [\[Link\]](#)

Jessica Berg, Muhammad **Haseeb**, Haiming Chen, Yaojia Ju, Anirudh Sivaraman, Ravi Netravali, Srinivas Narayana

To Block or Not To Block: Accelerating Mobile Webpages On-The-Fly Through JavaScript Classification

ICTD 2022 (Presented the paper in Seattle, Washington) [\[Link\]](#)

Authors: M Chaqfeh, Muhammad **Haseeb**, W Hashmi, P Inshuti, M Ramesh, M Varvello, F Zaffar, L Subramanian, Y Zaki

Using Application Layer Banner Data To Automatically Identify IoT Devices

ACM Sigcomm CCR 2020 [\[Link\]](#)

Authors: Talha Javed, Muhammad **Haseeb**, Muhammad Abdullah, Mobin Javed

AWARDS, TALKS, PATENTS & SERVICES

Talk at Google: How to build an ultra-fast and scalable financial exchange on the public cloud?
I have been invited to give a talk at Google (12/03/2024) about my PhD work.

National Science Foundation (NSF) Travel Grant

Funds for travelling to ACM Sigcomm 2024 in Sydney, Australia

Outstanding Student Research Award

Granted by Nokia Bell Labs during Global Student Program 2023

HotNets Travel Grant

Funds for travelling to ACM HotNets in Boston, United States

Patent: A Method To Enable Fast Transmission And Processing Of 3D Telepresence Data Encoded As Octrees

Approved by Nokia's internal board, In submission to USPTO, Received Monetary Award from Nokia

Reviewer for ACM Journal on Computing and Sustainable Societies (JCSS)

Served as a peer reviewer for research articles submitted to ACM JCSS

MacCracken Fellowship

Granted by New York University for a Ph.D. in Computer Science

Summer Research Fellowship

Granted by Lahore University of Management Sciences for pursuing a summer research program

TEACHING

Networks And Mobile Systems, Spring 2023 at NYU

Financial Technologies, Spring 2024 at NYU

Operating Systems, Fall 2020 at LUMS

Data Structures, Spring 2019 at LUMS

SKILLS

C/C++, Python, PHP, SQL, Go, Javascript, React/React Native, Rust, AWS, Debugging, Testing, DPDK, eBPF, Linux, Kubernetes, Docker, Symbolic Execution, Parser program synthesis

MISC.

LinkedIn: <https://www.linkedin.com/in/haseeb-ashfaq-66248213b>

Personal Site: <https://haseeblums.github.io>

Availability for internship: May 10, 2025 to September 10, 2025

GitHub: <https://github.com/HaseebLUMS>

Phone: +1 (646) 240-6375

Legal Name: Muhammad Haseeb