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SOHAIB AHMAD

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EDUCATION

PhD, Computer Science — **University of Massachusetts, Amherst** — **Sep 2017 – Aug 2023** (expected)
- Krithi Ramamritham scholarship award for outstanding student — GPA: **3.87/4.0**
- Advisor: Prof. Ramesh Sitaraman

BS, Computer Science — **LUMS, Pakistan** — **Sep 2013 – May 2017**
- Graduation with high distinction — SCGPA: **3.92/4.0**
- Dean's honor list for excellent academic performance in all years
- Ranked 1st in the Computer Science class of 2017 (CGPA)

Research interests: Systems for ML, ML for Systems, Networked Systems, Resource Management and Scheduling, Edge Computing

EMPLOYMENT

Software Engineering Intern — **Meta Platforms, Inc. (formerly Facebook)** — **June 2022 – Aug 2022**
- Worked on the Serverless Computing team for asynchronous execution of workloads with varying service level agreement (SLA) requirements
- Implemented a new mechanism to add and manage elastic workers to the pool of serverless compute resources and throttle them based on different SLA requirements of applications

Research Intern — **Nokia Bell Labs** — **June 2021 – Aug 2021**
- Worked on resource management and scheduling of inference requests for the Bell Labs Inferencing Service.
- Used reinforcement learning to learn adaptable scheduling policies that increased the number of inference requests meeting quality-of-service requirements by up to 46% over the existing techniques.

Research Intern — **Nokia Bell Labs** — **June 2020 – Aug 2020**
- Designed a scheduler for placement of machine learning training jobs in a cluster distributed over multiple continents, based on the resource and data constraints of the jobs for the Nokia internal job training system.
- Reduced the make-span of jobs by up to 52% under normal load and up to 26% under high load conditions compared to the existing Nokia job training system, improving resource utilization across all locations.

Research Assistant — **University of Massachusetts, Amherst** — **Sept 2017 – Present**
- Devised a machine learning approach to reduce the energy costs of large datacenters, outperforming the state-of-the-art online algorithms by up to *10%.* Project received **Google Research Award**.
- Designed and implemented a load balancing algorithm to reduce end-user latency by up to *3.5x* and network traffic by up to *2.4x* for edge computing networks in simulation.

Research Assistant — **LUMS, Pakistan** — **Aug 2015 – May 2017**
- Implemented and compared congestion control protocols for TCP in-cast congestion in datacenter networks.
- Performed a study on mobile device characteristics in developing regions and identified device-level bottlenecks for Internet performance, published in ACM Internet Measurements Conference (IMC) 2016.

PUBLICATIONS

ACM SIGCOMM 2018: R. Sen, *S. Ahmad*, A. Phokeer, Z. Farooq, I. Qazi, D. Choffnes, K. Gummadi. Inside the Walled Garden: Deconstructing Facebook's Free Basics Program. Proceedings of the 2018 Conference of the ACM Special Interest Group on Data Communication. August 2018. [**PDF**]

ACM/IEEE SEC 2021: D. Kumar, *S. Ahmad*, A. Chandra, R. Sitaraman. *AggNet: Cost-Aware Aggregation Networks*

for Geo-distributed Streaming Analytics. To appear in the ACM/IEEE Symposium on Edge Computing (SEC), December 2021. [**PDF**]

ACM e-Energy 2019: *S. Ahmad*, A. Rosenthal, M. Hajiesmaili, R. Sitaraman. *Learning from Optimal: Energy Procurement Strategies for Data Centers.* Proceedings of the Tenth ACM International Conference on Future Energy Systems. June 2019. Pages 326–330. [**PDF**]

ACM IMC 2016: *S. Ahmad*, A. L. Haamid, Z. A. Qazi, Z. Zhou, T. Benson, I. Qazi. A View from the Other Side: Understanding Mobile Phone Characteristics in the Developing World. Proceedings of the 2016 Internet Measurement Conference. November 2016. Pages 319–325. [**PDF**]

AWARDS & SERVICE

- **Best Paper Award**, ACM SIGCOMM CCR 2018
- Served as a Program Committee Member (Shadow) to peer-review papers for ACM EuroSys (2022)
- Krithi Ramamritham scholarship at UMass Amherst for outstanding student in systems research (2017)
- Summer Research Project Award at LUMS awarded to highly impactful research projects (2016)

TECHNICAL SKILLS

Languages: C/C++, Python, Java, JavaScript, MATLAB, SQL
Libraries: PyTorch, Keras, TensorFlow, Scikit-learn, FastAPI
Tools: Docker, Git, LaTeX, Bash/Shell