

Aqsa Kashaf

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EDUCATION

Carnegie Mellon University

PhD Student, Electrical And Computer Engineering Department (ECE)

Advisor: Vyas Sekar, Yuvraj Agarwal

Relevant Courses: Network Security (18-731), Introduction to Machine Learning (10-701), Programmable Networks (15-829), Secure Software Systems (18-732), Network Economics, Advanced Operating Systems (15-712), Sensing and IoT (17-881)

LUMS University

BS in Computer Science

Pittsburgh, PA

Aug. 2016 –

Lahore, Pakistan

Aug. 2012 – May 2016

PUBLICATIONS

[1] **Analyzing Third Party Service Dependencies in Modern Web Services: Have We Learned from the Mirai-Dyn Incident?**

Aqsa Kashaf, Vyas Sekar, Yuvraj Agarwal

In *Proceedings of the ACM Internet Measurement Conference (IMC)*, 2020

[2] **Incentivizing censorship measurements via circumvention.**

Aqib Nisar, Aqsa Kashaf, Ihsan Ayyub Qazi, and Zartash Afzal Uzmi

In *Proceedings of the 2018 Conference of the ACM Special Interest Group on Data Communication (SIGCOMM)*, 2018.

[3] **A case for marrying censorship measurements with circumvention.**

Aqib Nisar, Aqsa Kashaf, Zartash Afzal Uzmi, and Ihsan Ayyub Qazi.

In *Proceedings of the 14th ACM Workshop on Hot Topics in Networks (HotNets)*, 2015.

[4] **Mitigating datacenter incast congestion using rto randomization**

Ubaid Ullah Hafeez, Aqsa Kashaf, Aisha Mushtaq, Hassan Zaidi, Ihsan Ayyub Qazi, and Zartash Afzal Uzmi.

In *Proceedings of IEEE Global Communications Conference (GLOBECOM)*, 2015.

RESEARCH EXPERIENCE

Profiling the Resource Constraints of a DDoS Defense System | *On-going*

- Remote Profiling of the processing capacity of DDoS Mitigation Functions

Analysing Third Party Service Dependencies | *Published*

- Analysed the prevalence of third-party DNS, CDN and CA dependencies in modern web services
- Studied centralisation among service providers

Formal Verification of Smart Home Applications | *Under-review*

- Designed and developed a formal verification tool for smart home applications to identify safety violations
- Modelled smart home applications using timed automata (TA) and built a parser to translate apps into TA.

Incentivizing Censorship Measurements with Circumvention | *Published*

- Designed and developed a platform to measure censorship in real-time and provide adaptive circumvention.

Mitigating Incast Congestion using RTO Randomization | *Published*

- Studied the impact of MIN_RTO randomization on incast congestion using NS2 simulations

TECHNICAL SKILLS

Languages: C, C++, Java, MATLAB, Python, Go, Lua, Node.js, Assembly Language, TCL, MySQL, JavaScript, Ruby, HTML, CSS, PHP, UNIX Shell scripts, Groovy, OCaml

Frameworks: Network Simulator (NS2), Docker, Click Router, Rails, OpenGL, Visual Studio, Adobe Illustrator, Adobe Dreamweaver, Proteus, Creo Parametric, Unity(Game Engine)

HONORS AND AWARDS

Grace Hopper Celebration (GHC) Scholar

2016

Carnegie Institute of Technology Dean's Fellow

2016

Secured position in LUMS Dean's Honour List

2013,14,15

EXTRA-CURRICULAR ACTIVITIES

Member of CMU CyLab Diversity Committee. 2020

President of Pakistani Student Association, CMU, 2019

Director Design, LUMS Science Olympiad, 2014

Director Registrations, LUMS Olympiad, 2014

Volunteer work in LUMS Community Service Society and a trust named FAIDA