

Research Interests

I am interested in improving cloud efficiency from a systems perspective. Specifically, I work on broadening the scope of applications that can efficiently run on cloud platforms by taking a full-stack approach ranging from the operating system to higher levels like serverless frameworks.

Education

- **Massachusetts Institute of Technology** - *PhD Computer Science* (Sept 2022 - Present)
– Advisor: Dr. Adam Belay
- **University of Illinois at Urbana-Champaign** - *MSc Computer Science* (August 2016 - May 2018)
– Thesis: Network Analysis and Verification
- **Lahore University of Management Sciences** - *BSc Computer Science* (August 2012 - May 2016)

Employment

Research Software Engineer **Microsoft Research** (Oct 2019 - Aug 2022)

Systems Research Group

- Working on improving efficiency of cloud platforms, in particular serverless infrastructure.

Software Engineer **Microsoft** (July 2018 - Oct 2019)

Windows Operating System Group

- Implementation of a virtualized audio stack in the OS to run cross-platform on PC and Xbox.

Publications

- **Architecture-Level Modeling of Photonic Deep Neural Network Accelerators**
T Andrusis, G I Chaudhry, V M. Suriyakumar, J S. Emer, V Sze
(*ISPASS 2024 - Poster Session*) *IEEE International Symposium on Performance Analysis of Systems and Software*
- **Making Kernel Bypass Practical for the Cloud with Junction**
J Fried, G I Chaudhry, E Saurez, E Choukse, Í Goiri, S Elnikety, R Fonseca, A Belay
(*NSDI 2024*) *USENIX Symposium on Networked Systems Design and Implementation*
- **Palette Load Balancing: Locality Hints for Serverless Functions**
M Abdi, S Ginzburg, C Lin, J M Faleiro, Í Goiri, G I Chaudhry, R Bianchini, D S Berger, R Fonseca
(*EuroSys 2023*) *European Conference On Computer Systems*
- **Memory-Harvesting VMs in Cloud Platforms**
A Fuerst, S Novakovic, Í Goiri, G I Chaudhry, P Sharma, K Arya, K Broas, E Bak, M Iyigun, R Bianchini
(*ACM ASPLOS 2022*) *Conference on Architectural Support for Programming Languages and Operating Systems*
- **FaaS\$T: A Transparent Auto-Scaling Cache for Serverless Applications**
F Romero, G I Chaudhry, Í Goiri, P Gopa, P Batum, N J. Yadwadkar, R Fonseca, C Kozyrakis, R Bianchini
(*ACM SoCC 2021*) *Symposium on Cloud Computing*
- **Faster and Cheaper Serverless Computing on Harvested Resources**
Y Zhang, Í Goiri, G I Chaudhry, R Fonseca, S Elnikety, C Delimitrou, R Bianchini
(*ACM SOSP 2021*) *Symposium on Operating Systems Principles*
- **Serverless in the Wild: Characterizing and Optimizing the Serverless Workload at a Large Cloud Provider**
M Shahradd, R Fonseca, Í Goiri, G I Chaudhry, P Batum, J Cooke, E Laureano, C Tresness, M Russinovich, R Bianchini
(*USENIX ATC 2020*) *Annual Technical Conference - Winner of the Community Award*
- **High Coverage Testing of Softwarized Networks**
S Prabhu, G I Chaudhry, B Godfrey and M Caesar
(*ACM SIGCOMM 2018 - SecSoN*) *Workshop on Security in Softwarized Networks*

- **MegaVM - A Memory Enhancing Framework for Datacenters**

R Tahir, G I Chaudhry, B Bakht, H Sharif, F Zaffar, M Caesar

(USENIX NSDI 2016 - Poster Session) Symposium on Networked Systems Design and Implementation

Teaching Assistant

- **University of Illinois at Urbana-Champaign** (2017 - 2018)
CS484 Parallel Programming (*OpenMP, MPI, Charm++*), *CS125* Intro to Programming (*Java*)
- **Lahore University of Management Sciences** (2013 - 2016)
CS473 Network Security (*C, C++*), *CS382* Network-Centric Computing (*Java*), *CS200* Intro to Programming (*C++*)

Other Experiences

- **Recruiting** (2019 - 2022)
– Conducting technical interviews for Microsoft