

Faria Kalim

INTERESTS	Distributed systems	
EDUCATION	Ph.D., Computer Science <i>University of Illinois at Urbana-Champaign (UIUC), USA</i> <ul style="list-style-type: none">• Sohaib and Sara Abbasi Fellow• Advisor: Prof. Indranil Gupta	08/2015 — present
	M.S. alongside Ph.D., Computer Science <i>University of Illinois at Urbana-Champaign (UIUC), USA</i> <ul style="list-style-type: none">• Advisor: Prof. Indranil Gupta• C.GPA: 3.91/4.00	08/2015 — 12/2017
	B.E., Computer Science <i>National University of Sciences & Technology (NUST), Pakistan</i> <ul style="list-style-type: none">• C.GPA: 4.00/4.00; Class Standing: 1/76	08/2011 — 06/2015
GRADUATE RESEARCH, DPRG, UIUC	Holistic Parameter Tuning for Apache Heron <ul style="list-style-type: none">• We investigate how to optimize all of the most important configuration parameters in Heron jobs to achieve different performance goals e.g., latency, throughput, and resource utilization.	Present
	Verified Blockchains <ul style="list-style-type: none">• We formally verify and implement a simplified version of the Blockchain protocol. This removes bugs a priori, potentially saving users from bugs that can lead to a loss of currency, but is challenging to do at a distributed system level.	Present
UNDERGRADUATE RESEARCH, AN-DASH, NUST	Crater: CRowd-sourcing Application To measure Road conditions <ul style="list-style-type: none">• A cloud-hosted back-end used classification methods to discover patterns representing potholes and speedbumps on the road using crowd-sourced accelerometer readings from smartphones.• Project awarded grant through Microsoft Azure for Research (2014 – 2015).	05/2014 – 06/2015
PUBLICATIONS	<ul style="list-style-type: none">• Faria Kalim, Jaehoon Paul Jeong, Muhammad Usman Ilyas, “Crater: A Crowd Sensing Application to Estimate Road Conditions”, <i>IEEE Access 4</i> (2016): 8317-8326.• Faria Kalim, Le Xu, Sharanya Bathey, Richa Meherwal, Indranil Gupta, “Henge: Intent-driven Multi-Tenant Stream Processing”, <i>Symposium of Cloud Computing</i> (2018)	
PRE-PRINTS	<ul style="list-style-type: none">• Faria Kalim, Shadi Noghabi, ‘Bené: On Demand Cost-Effective Scaling at the Edge’, <i>arXiv pre-print:1806.09265</i>, 2018.	
POSTERS	<ul style="list-style-type: none">• Faria Kalim et al., ‘Reducing Tail Latencies in Micro-Batch Stream Processing Systems’, In <i>Proceedings of the ACM Symposium on Cloud Computing</i>. 2017.• Faria Kalim, Shadi Noghabi, Shiv Verma, ‘To Edge or Not to Edge?’, In <i>Proceedings of the ACM Symposium on Cloud Computing</i>. 2017.	
INTERNSHIPS	Software Engineering Intern, Real-Time Compute Team, Twitter <ul style="list-style-type: none">• I designed and evaluated the resource management aspects of Caladrius, a system that predicts the future traffic rates of Heron jobs and preemptively scales them to prevent resource bottlenecks.	Summer 2018
	Research Intern, Cloud Container Operating System Project, IBM Research <ul style="list-style-type: none">• Optimized the scheduler in Spark Streaming to prevent load imbalances and mitigate stragglers.	Summer 2017
	Software Engineering Intern, Site Reliability Engineering Team, Uber <ul style="list-style-type: none">• Worked on a monitoring system that provided an explicit signal of failed operations witnessed by a user. As Uber must provide 99.99% availability, a difficult challenge was to ensure that the system is 99.995% available—more available than Uber itself—while providing a high signal-to-noise ratio.	Summer 2016
SERVICE	EuroSys 2019 Shadow PC	Fall 2018

SELECT HONORS
AND AWARDS

- [Sohaib and Sara Abbasi Fellowship](#), Fall 2015 – present
- Recipient of the Usenix Student Grant, ATC 2017
- Selected by [CS @ Illinois](#) to receive travel funding for the 2017 Richard Tapia Celebration
- Selected to join [Tau Beta Pi](#), the oldest engineering honor society in the US, Fall 2015 — present
- Recipient of President’s Gold Medal for academic excellence in undergraduate studies, 2015
- NUST Scholarship for all semesters since admission in undergraduate studies, Fall 2011 – Fall 2014

SYSTEMS AND
SOFTWARE SKILLS

- Programming Languages (in decreasing order of proficiency): Java, C++, Python, Go, Scala
- Programming Models: OpenMP, MPI, Android fundamentals
- Frameworks: Apache Storm, Apache Heron, Apache Spark

TEACHING
EXPERIENCE

Graduate Teaching Assistant

Fall 2017, Fall 2018

- CS425 – Distributed Systems
- As Head-TA of the course, I volunteered to teach a short overview of Apache Spark, which was later also included in the [Coursera version](#) of the course.