Faria Kalim

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Interests

Distributed sytems, ubiquitous computing, parallel & high-performance computing

Education

Ph.D., Computer Science **08/2015 — present**
University of Illinois at Urbana-Champaign (UIUC), USA

- Sohaib and Sara Abbasi Fellow **08/2015 — 05/2016**
- Advisor: Prof. Indranil Gupta

B.E., Computer Software Engineering **08/2011 — 06/2015**
National University of Sciences & Technology (NUST), Pakistan

- C.GPA: 4.00/4.00; Class Standing: 1/76; Major: Computer Science

Research Experience

Graduate Research, DPRG, UIUC **Fall 2015**

- Assisting in developing an adaptive version of Stela which satisfies Cost and Throughput SLAs.
- Stela is originally a scheduler that provides on-demand elasticity in Storm.

Undergraduate Research Assistant, AN-DASH Laboratory, NUST **05/2014 – 06/2015**

- Developed classification methods to discover patterns in accelerometer readings from smartphones

Select Honors and Awards

- Sohaib and Sara Abbasi Fellowship, Fall 2015 – Spring 2016
- NUST-SEECS Open House Winner in Software Engineering, 2015
- 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
- Dawn National Spelling Bee champion, Pakistan (2008)

Select Undergraduate Projects

Crater: A crowd sensing application to estimate road conditions **Fall 2014 – Spring 2015**

- Service uses smartphones present in a moving vehicle to detect and measure sudden movements and locations without users' involvement
- Machine learning features using pattern classification are hosted as a high-performance-computing elements in the Azure cloud. Results are overlaid on Google Maps
- Crowdsourcing enables data collection and allows for pruning of measurements
- Project awarded grant through Microsoft Azure for Research (2014 – 2015)

Mazewar: A Multiplayer Game **Fall 2014**

- Implemented a distributed, multiplayer game, identical to the Stanford CS244B Mazewar project

Reliable UDP **Fall 2013**

- Added reliability checks at the application layer to form a sound version of UDP

Characterization of image comparison methods that use SSE instructions **Spring 2013**

- Implemented and compared the performance of the same image comparison algorithm in Assembly, with and without SSE instructions. Empirical results showed that Assembly with SSE instructions was on average, twice as fast as Assembly.

Front end compiler **Spring 2014**

- Implemented a lexical analyzer, parser and the semantic analyzer using C++

Conference manager **Fall 2012**

- Implemented a hash table of AVL trees to record conference attendees information
- Implemented Dijisktra's shortest path algorithm with heaps to enable navigation at the venue

Web portal digitizing public relations between blood donors and recipients **Fall 2014**

- Portal enables recipients to contact local donors (rfusion.revolutionflame.com)

Activities and Service

6th in Pakistan, IEEE Xtreme 24-hour programming competition **2012**

Selected amongst the top 50 students from Pakistan in the National Mathematics Talent Contest **2010**

Volunteer in a charity drive for Pakistanis displaced in 2005's earthquake **2011**

French language course **2013**

- Studied at the beginner level; Je peux lire et à écrire en français
- Secured 2^{nd} prize and received a scholarship at the end of the course

Systems and Software Skills

- Programming Languages: C, C++, Java, Python, Javascript
- Programming Models: OpenMP, Android fundamentals
- Miscellaneous: Pthreads, MySQL, Knockout, Parallax, NodeJS, Bootstrap, Javascript, CSS, HTML, XML, Git, LaTeX, RESTful APIs, HOL.