HABIBA FARRUKH

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EDUCATION

Purdue University   *Spring 2017 - Present*

- Ph.D. candidate, Computer Science
- Advisor: Professor Z. Berkay Celik
- Research Interests: Designing and building secure mobile systems involving various sensing and machine learning algorithms.

LUMS School of Science & Engineering, Pakistan   *August 2012 - May 2016*

- B.S Computer Science

Courses: Networks, Mobile Systems and Security, Information Security, Deep Learning, Data Mining, Software Engineering, Databases, Computer Vision, Digital Image Processing, Applied Probability

WORK EXPERIENCE

Applied Scientist Intern - Amazon Robotics   *Summer 2020*

- Conducted research and developed a machine-learning based automated package identification system for robotic arms in Amazon's fulfillment centers.

Research Assistant - SIMBA Lab @ Purdue University   *June 2018 - Fall 2020*

- Conducting research on building innovative and secure mobile sensing and computing systems using a combination of security, machine learning and vision algorithms.

Research Assistant - Network and Systems Group @ LUMS   *Summer 2015*

- Redesigned switch buffer organization scheme for data centers using a software defined network to separate short and long flows, manage buffer sizes and handle weighted processor sharing.

Teaching Assistant - Purdue University   *Spring 2017 - Fall 2019*

- Computer Networks; Data Structures and Algorithms.

LANGUAGES AND TECHNOLOGIES

- C++; Java; Python; MATLAB; JavaScript; Ruby; Rails; Scala
- Android; iOS; Mixed Reality; ARCore; Unity; OpenCV; OpenPose; TensorFlow; PyTorch; Git

PUBLICATIONS

- ***SARA: Secure Android Remote Authorization***
  Abdullah Imran, **Habiba Farrukh**, Muhammad Ibrahim, Z. Berkay Celik and Antonio Bianchi
  31st USENIX Security Symposium (USENIX Security), 2022

- ***New Metrics to Evaluate the Performance and Fairness of Personalized Federated Learning***
  Siddharth Divi, Yi-Shan Lin, **Habiba Farrukh** and Z. Berkay Celik
  International Workshop on Federated Learning for User Privacy and Data Confidentiality (FL-ICML), 2021

- S^3*: Side-channel attack on Stylus Pencils through Sensors*
  Habiba Farrukh, Tinghan Yang, Hanwen Xu, Yuxuan Yin, He Wang, Z. Berkay Celik
  ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT/UbiComp), 2021

- *FaceRevelio: A Face Liveness Detection System for Smartphones with a Single Front Camera*
  Habiba Farrukh, Reham Aburas, Siyuan Cao, He Wang
  26th Annual International Conference on Mobile Computing and Networking (MobiCom), 2020

- *Towards Context Address for Camera-to-Human Communication*
  Siyuan Cao, **Habiba Farrukh**, He Wang
  IEEE International Conference on Computer Communications (InfoCom), 2020

- *Video Demo: Enabling Public Cameras to Talk to the Public*
  Siyuan Cao, **Habiba Farrukh**, He Wang
  18th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys), 2018

AWARDS AND HONORS

- Received Bilsland Dissertation Fellowship Award *2021*
- Received NSF Student Travel Grant from ACM MobiSys 2018 *2018*
- Received scholarship to attend Grace Hopper Conference for Women in Computing *2018*
- Graduated with Distinction *Bachelor of Science*
- Placed on LUMS Dean's Honor List *2014-2016*