Muhammad Ibrahim

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EDUCATION

Purdue University, West Lafayette *August 2019 - Present*
PhD, Computer Science
Relevant Courses: Software/Information/Mobile Security, Software Engineering, Data Mining

LUMS School of Sciences & Engineering, Pakistan *July 2015 - June 2019*
BS, Computer Science
Relevant Courses: Network Security, Distributed Systems, Software Engineering, Deep Learning

WORK EXPERIENCE

Purdue University *August 2019 - Present*
Research Assistant, Advised by Dr. Antonio Bianchi (UCSB)

- Performed high impact research on **mobile system security**
- Developed tools and techniques to scale and automate app analysis

LUMS School of Sciences & Engineering, Pakistan *August 2018 - June 2019*
Teaching Assistant, Advised by Zaid Saeed Khan (MIT)

- TA for CS-200, CS-100 - Introduction to Programming, Computational Problem Solving
- Supervised **C++** programming labs and assignments for classes of over 200 students

National Center in Big Data & Cloud Computing, Pakistan *Summer 2018*
Research Intern, Mentored by Dr. Naveed Arshad (CU Boulder)

- Applied data mining techniques for forecasting energy usage in Pakistan
- Developed **Android** apps for visualizing energy usage data of smart grids

Computer-Human Interaction & Social Experience Lab, Pakistan *Summer 2017*
Research Intern, Mentored by Dr. Suleman Shahid (Tilburg University)

- Investigated usability of AR/VR technologies and developed AR/VR **Android** apps
- Conducted developer/user studies for improving game design frameworks

PUBLICATIONS

- **Muhammad Ibrahim**, Abdullah Imran, Antonio Bianchi. SafetyNOT: On the usage of the SafetyNet attestation API in Android. MobiSys 2021
- Abdullah Imran, Habiba Farrukh, **Muhammad Ibrahim**, Z. Berkay Celik, Antonio Bianchi. SARA: Secure Android Remote Authorization. USENIX Security 2022 Fall
- **Muhammad Ibrahim**, Andrea Continella, Antonio Bianchi. AoT - Attack on Things: A security analysis of IoT firmware updates. Euro S&P 2023
- Doguhan Yeke, **Muhammad Ibrahim**, Habiba Farrukh, Abdullah Imran, Antonio Bianchi, Guliz Seray Tuncay, Z. Berkay Celik. Wear's my Data? Understanding the Cross-Device Runtime Permission Model in Wearables. S&P 2024

TALKS AND PRESENTATIONS

- July 2023: Paper presentation at the 8th IEEE European Symposium on Security and Privacy (Delft, Netherlands)
- June 2023: Presentation at CyberTruck Challenge 2023 (Warren, MI)
- April 2023: Poster presentation at MITRE eCTF Award Ceremony (McLean, VA)

- October 2022: Speaker at Google ASPIRE Research Seminar (Virtual)
- July 2021: Paper presentation at the 19th ACM International Conference on Mobile Systems, Applications, and Services (Virtual)

ADDITIONAL SKILLS

- **Programming Languages:** Python, Java, C++, JavaScript, Rust
- **Software:** Linux, Google Cloud Platform, Ghidra, Unity, Frida, Android Studio
- **Spoken Languages:** English, Urdu, Punjabi, Hindi

PROFESSIONAL SERVICES

External Reviewer

- Research in Attacks, Intrusions and Defenses (RAID 2023)

Artifact Evaluation Committee

- EuroSys (2023)
- Workshop On Offensive Technologies (2023)

LEADERSHIP, DIVERSITY, AND OUTREACH ACTIVITIES

CS Graduate Student Government (CSGSA), Purdue

- President (2023 - 2024)
- Social Activities Coordinator (2022 - 2023)

Science Promotion Society (SPADES), LUMS

- Event Head for national programming event (2016 - 2017)
- Team Member (2015 - 2016)

Boxing Team, LUMS

- Senior Trainer (2017 - 2018)
- Team Member (2016 - 2017)

AWARDS AND HONORS

- Google ASPIRE Award 2021, 2022, 2023
- Travel Grant, European Security and Privacy 2023
- Best Poster, MITRE Embedded Capture The Flag 2023
- Best Sound FX, MindStorm Studios Game Jam Pakistan 2018
- Color Award, LUMS Boxing Team 2018
- Immense Contribution Award, LUMS Science Promotion Society 2017