Rukhshan Haroon

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EDUCATION

Tufts University, Medford, MA, USA.
Ph.D. in Computer Science, Sept. 2022 - June 2027 (expected)
Advisor: Fahad R. Dogar

Lahore University of Management Sciences (LUMS), Lahore, Pakistan.
B.Sc. in Computer Science, Sept. 2018 - May 2022
Advisors: Zartash Uzmi and Fareed Zaffar

WORK EXPERIENCE

Research Assistant, Tufts University — June 2023 to present

1. **Enhancing Text Messaging for Autistic Adults with Generative AI** *(ongoing work)*
   - Implemented an end-end chatting system that leverages LLM capabilities integrated within its UI to recognize user intent and sentiment, predict user reactions, and suggest changes in messages.
   - Conducting an experimental study with autistic users to iteratively enhance the system through participant feedback, and investigate user preferences around autonomy and AI assistance.

Research Assistant, LUMS — May 2020 to Sept. 2022

1. **Evaluating Program Debloating Paradigms and Their Compositions** *(peer-reviewed)*
   - Implemented a scalable and automated benchmarking system for existing software debloating tools, which requires minimal end-user intervention to add support for new tools.
   - Conducted performance analysis of 4 debloating tools on this system using metrics such as memory footprint, execution time, and the correctness and size of the debloated programs.
2. **Addressing COVID-19's Gendered Impact on Healthcare Workers (HCWs)** *(peer-reviewed)*
   - Led the design of a triangulation-based approach for mixed-methods data collection in 5 hospitals, curating a dataset of 600+ survey responses and 50+ interviews.
   - Employed thematic analysis and inferential statistics to explore gender-based disparities in HCWs' experiences of the pandemic, and proposed design recommendations to mitigate these disparities.
3. **Unpacking Misinformation Amid the COVID-19 Pandemic** *(peer-reviewed)*
   - Utilized inferential statistics to explore how sociocultural factors impact receptivity to disinformation, and why certain types of misinformation are more prevalent than others.

PUBLICATIONS

- **On the Frontline During the Covid-19 Pandemic: Gender Inequality and Experiences of Healthcare Workers in Pakistan.** ACM JCSS, 2023. PDF
- **SoK: A Tale of Reduction, Security, and Correctness - Evaluating Program Debloating Paradigms and Their Compositions.** ESORICS, 2023. PDF
- **Unpacking Misinformation Amid the COVID-19 Pandemic: A Mixed Methods Study.** IEEE Internet Computing, 2022. PDF

SKILLS

- **Languages and Frameworks:** ARKit, Unity, Pytorch, JavaScript, JSX, ReactJS, NodeJS, Python, scikit–learn, NumPy, Pandas, Keras, MongoDB, Firebase, MySQL, C#, C++, C, Haskell, HTML, CSS, Git, VSCode, OpenAI APIs, Docker.
- **Selected Coursework:** Deep Learning, HCI for Disabilities, Advanced Programming, Data Structures, Algorithms, OOP, Software Engineering, Computer Networks, Network Security, Operating Systems, Databases, Artificial Intelligence, Data Science, Probability, Statistics.

HONORS & AWARDS

- **XR Hackathon Winner:** 1st position at Harvard XR DreamHack 2023.
- **Dean's Honour List:** Awarded annually for academic excellence by LUMS from 2019-22.