

# Rukhshan Haroon

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## EDUCATION

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**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

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**Research Assistant, Networking Lab, Tufts University — June 2023 to present**

**1. Enhancing Text Messaging for Autistic Adults with Generative AI (*ongoing work*)**

- Designed and implemented the front-end and back-end of a chatting system that uses large language models to predict user intent, sentiment and reactions, and suggest changes to messages.
- Conducting an experimental study with autistic users to iteratively enhance the system through participant feedback, with a focus on user preferences around self-autonomy and accessibility.

**Research Assistant, Internet Security and Privacy Lab, LUMS — May 2020 to Sept. 2022**

**1. Evaluating Program Debloating Paradigms and Their Compositions**

- 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 the memory footprint, vulnerability, correctness and size of the debloated programs.

**2. Addressing COVID-19's Gendered Impact on Healthcare Workers (HCWs)**

- Designed a triangulation-based approach for mixed-methods data collection in 5 hospitals, curating a dataset of 600+ survey responses and 50+ interview transcripts.
- Employed thematic analysis and inferential statistics to explore gender based disparities in HCWs' experiences of the pandemic, and proposed technology driven interventions to mitigate them.

**3. Exploring the Impact of Social Media Usage on COVID-19 Perceptions**

- Led the design of a mixed-methods data collection methodology, curating a dataset of 380 survey responses and 30 interview transcripts.
- Utilized thematic analysis and inferential statistics to explore how sociocultural factors impact receptivity to disinformation, and why certain misinformation types prevail more than others.

## PUBLICATIONS

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**SoK: A Tale of Reduction, Security, and Correctness - Evaluating Program Debloating Paradigms and Their Compositions.** ESORICS, 2023. [PDF](#)

**On the Frontline During the Covid-19 Pandemic: Gender Inequality and Experiences of Healthcare Workers in Pakistan.** ACM JCSS, 2023. [PDF](#)

**Unpacking Misinformation Amid the COVID-19 Pandemic: A Mixed Methods Study.** IEEE Internet Computing, 2022. [PDF](#)

## SKILLS

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**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 AND AWARDS

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**XR Hackathon Winner:** 1st position at Harvard XR DreamHack 2023.

**Dean's Honour List:** Awarded annually for academic excellence by LUMS from 2019-22.