

Shiza Ali

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EDUCATION

- Boston University** Sep. 2019 – Expected May 2024
PhD in Computer Engineering Boston, MA
- Advisor: Dr. Gianluca Stringhini
 - Thesis: *Tackling Malicious Activity Online: A Comprehensive Approach to Online Risk Detection*
- National University of Computer and Emerging Sciences (NUCES)** Sep. 2014 – May 2018
Bachelor of Science in Computer Science Lahore, Pk
- Magna Cum Laude — Dean's List 2014-18

EXPERIENCE

- Graduate Researcher** Aug. 2019 - Present
Boston University (SeclabU) Boston, MA
- Developed data-driven machine-learning models to mitigate risks and abusive behavior online.
 - Published significant research in leading conferences, including IEEE(S&P), WebSci, CHI, CSCW etc.
 - **Awarded Meta Research Ph.D. Fellowship Finalist, 2023**
- Graduate Teacher's Fellow** Sep. 2020 - May. 2021
Boston University Boston, MA
- I conducted labs for Applied Algorithms for Engineers Course (EC330) and worked with a class of 50 students to teach them the core concepts of algorithms and programming in C++.
- Developer Advocate** Feb. 2019 - Aug. 2019
Educative, Inc Bellevue, WA (Remote)
- Designed and developed interactive training courses focused on Data Structures and Algorithms using Python, C++, and HTML/CSS programming languages.
 - Other tasks included writing source code in various languages, project planning, stakeholder coordination, and collaboration with the software engineering team for bug fixes and new feature requests.
 - Initiated discussions for UI/UX improvement of the company website by incorporating new features to improve the platform's usability.
 - Collaborated with the software development team to implement Docker for the company's website.
- Research Associate** Feb. 2018 - Feb. 2019
Technology for People Initiative Lab, LUMS Lahore, Pakistan
- As part of my responsibilities, I mentored new students, managed the website, and led 3 research projects.
 - Conducted research in internet measurement, social media algorithm auditing, and web scraping.
 - Collaborated with UC Davis doctors to design a machine-learning algorithm that detects tuberculosis using X-ray images and biomarkers.
 - Collaborated on a project to create a deep learning pipeline that uses multiple video features to accurately detect child-inappropriate content on YouTube. Published at IEEE ASONAM'19.
- Software Engineer Intern** Jun. 2017 - Aug. 2017
Mindstorm Studios Lahore, Pakistan
- Served as a full-stack developer and deployed HTML5 game online.

PROJECTS

Risk Detection Pipeline for Private Instagram Conversations

Published in ACM CHI'22 and ACM CSCW'23

- Collected Instagram data from 172 participants using a web-based system. We used AWS Relational Database Service (RDS) to save user information and conversations securely in a password-protected MySQL database. I then performed extensive data analysis of over 5 million messages which resulted in 3 publications
- Conducted qualitative and quantitative study of media sharing habits of 100 adolescents on Instagram. This research won the ***Honorable Mention Award at ACM CHI'22**.
- Helped implement a sexual risk detection system for Instagram messages that won ***Impact Recognition Award at ACM CSCW'23**.
- Implemented a machine-learning-based multi-modal ensemble classifier that detects risky private conversations with an accuracy of 85%.

Exploring Large Language Model(LLMs) Contribution to Online Risks

Inprogress in ICWSM'24

- Conducted a thorough analysis of LLMs including threat modeling to identify weaknesses that could be exploited to create and spread harmful online content.

Proactive Approach to Detecting Evolving Hate Speech Online

Inprogress for IEEE S&P'24

- Developed a hybrid proactive approach using NLP Word Embedding Technique and BERT-based techniques to detect evolving toxic language online achieving an accuracy of 92%.

TROLLMAGNIFIER: Detecting State-Sponsored Troll Accounts on Reddit

Published in IEEE S&P'22

- Developed a machine learning-based system to detect networks of troll accounts on Reddit with an accuracy of 97% and reported 1,248 accounts to Reddit detected by the system.

Understanding the Effect of Deplatforming on Social Networks

Published in WebSci'21

- Analyzed 22M posts on Gab produced by 336K users between August 2016 and January 2018 and then checked whether the same users existed on Twitter using automated techniques. Investigated the movement of banned users from Twitter to Gab.
- Created a machine learning-based system to identify the same users on different online platforms (Accuracy 94.5%).

PUBLICATIONS

Conference

- **Shiza Ali**, Afsaneh Razi, Seunghyun Kim, Ashwaq Alsoubai, Joshua Gracie, Munmun De Choudhury, Pamela J. Wisniewski, and Gianluca Stringhini. "Understanding the digital lives of youth: Analyzing media shared within safe versus unsafe private conversations on Instagram." ***Best Paper: Honorable Mention Award** (ACM CHI'22).
- Mohammad Hammas Saeed, **Shiza Ali**, Jeremy Blackburn, Emiliano De Cristofaro, Savvas Zannettou, and Gianluca Stringhini. "Trollmagnifier: Detecting state-sponsored troll accounts on Reddit." (IEEE S&P'22).
- **Shiza Ali**, Mohammad Hammas Saeed, Esraa Aldreabi, Jeremy Blackburn, Emiliano De Cristofaro, Savvas Zannettou, and Gianluca Stringhini. "Understanding the effect of deplatforming on social networks." (ACM WebSci'21).

- Rashid Tahir, Faizan Ahmed, Hammas Saeed, **Shiza Ali**, Fareed Zaffar, and Christo Wilson. “Bringing the kid back into YouTube kids: Detecting inappropriate content on video streaming platforms.” (IEEE/ACM ASONAM’19).

Journal

- **Shiza Ali**, Afsaneh Razi, Seunghyun Kim, Ashwaq Alsoubai, Chen Ling, Munmun De Choudhury, Pamela J. Wisniewski, and Gianluca Stringhini. “Getting Meta: A Multimodal Approach for Detecting Unsafe Conversations within Instagram Direct Messages of Youth.” (ACM CSCW’23).
- Afsaneh Razi, Ashwaq AlSoubai, Seunghyun Kim, **Shiza Ali**, Gianluca Stringhini, Munmun De Choudhury, and Pamela J. Wisniewski. “Sliding into My DMs: Detecting Uncomfortable or Unsafe Sexual Risk Experiences within Instagram Direct Messages Grounded in the Perspective of Youth.” ***Impact Recognition Award** (ACM CSCW’23).

Workshops

- Afsaneh Razi, Ashwaq AlSoubai, Seunghyun Kim, Nurun Naher, **Shiza Ali**, Gianluca Stringhini, Munmun De Choudhury, and Pamela J. Wisniewski. “Instagram Data Donation: A Case Study on Collecting Ecologically Valid Social Media Data for the Purpose of Adolescent Online Risk Detection.” (ACM CHI’22 - Extended Abstracts).
- Xavier Caddle, Ashwaq Alsoubai, Afsaneh Razi, Seunghyun Kim, **Shiza Ali**, Gianluca Stringhini, Munmun De Choudhury, and Pamela Wisniewski. “Instagram data donation: A case for partnering with social media platforms to protect adolescents online.” (ACM CHI’21 - Workshop).
- Xavier Caddle, Afsaneh Razi, Seunghyun Kim, **Shiza Ali**, Temi Popo, Gianluca Stringhini, Munmun De Choudhury, and Pamela J. Wisniewski. “MOSafely: Building an Open-Source HCAI Community to Make the Internet a Safer Place for Youth.” (ACM CSCW’21 - Companion Publication).
- Afsaneh Razi, Seunghyun Kim, Ashwaq Alsoubai, Xavier Caddle, **Shiza Ali**, Gianluca Stringhini, Munmun De Choudhury, and Pamela Wisniewski. “Teens at the Margin: Artificially Intelligent Technology for Promoting Adolescent Online Safety.” (ACM CHI’21 - Workshop).

HONORS AND AWARDS

- Rising Star in Social Computing and Public Policy, UIowa 2023
- Impact Recognition Award, CSCW’2023
- SIGCHI Gary Marsden Travel Award, 2023
- Meta Research Ph.D. Fellowship Finalist, 2023
- Honorable Mention Award, CHI’2022
- IEEE S&P Student Grant, 2022 (\$1500)

TECHNICAL SKILLS

Languages: Python, C/C++, SQL, HTML/CSS, R

Libraries: Pandas, NumPy, Matplotlib, PyTorch, SciPy, BeautifulSoup, Scikit learn, Plotly

Research: Machine Learning, Natural Language Processing, Mixed-Method Analysis, Socio-technological Issues, Online Harms and Cybersafety

LINKS

Google Scholar: <https://scholar.google.com/citations?user=wVYZPn4AAAAJ>

LinkedIn: <https://www.linkedin.com/in/theshizaali/>