Mohit Singhal

682-552-4545 | mohit.singhal@mavs.uta.edu | https://msinghal10.github.io/ |
https://scholar.google.com/citations?user=8MNR5Y8AAAAJ&hl=en

Research Interests

Security & Privacy, Content Moderation, Data Mining, Fairness of AI systems

Education

The University of Texas at Arlington — Arlington, TX
Ph.D. Candidate in Computer Science — *In Progress, Aug. 2019 – present*
Advisor: Dr. Shirin Nilizadeh

The University of Texas at Arlington — Arlington, TX
M.S. in Computer Science — *Aug. 2017 – May 2019*
Advisor: David Levine

Jaypee University of Information Technology — Solan, India
B.Tech in Computer Science & Engineering — *Aug. 2013 – May 2017*

Work Experience

Instructor — Fall 2021 & 2023, Spring 2023 & 2024
The University of Texas at Arlington — *Arlington, TX*
- Taught 100+ students Information Security course (CSE 4380)

STEM Graduate Research Assistant — Spring 2022, & Summer 2023
The University of Texas at Arlington — *Arlington, TX*
- Worked on algorithmic fairness of Yelp recommendation and ranking systems

STEM Graduate Teaching Assistant — Fall 2018 – Present
The University of Texas at Arlington — *Arlington, TX*
- Taught over 200+ students Information Security lab (CSE 4380/5380)
- Developed & Conducted Capture the Flag (CTF) lab

Summer Research Intern — Summer 2016
Indian Institute of Technology — *Roorkee, India*
- Proposed key stroke based password matching technique

Summer Research Intern — Summer 2015
The University of Nebraska at Omaha — *Omaha, NE*
- Developed digital maps to monitor Attrazine levels in Mississippi River

Thesis

- *Ph.D. Thesis:* Content Moderation on Social Media: Social and Computational Standards and Implications

- *Masters Thesis:* Analysis and Categorization of Drive-By Download Malware Using Sandboxing and Yara Ruleset

Publications

- **Singhal, M.**, Ling, C., Paudel, P., Thota, P., Kumarswamy, N., Stringhini, G., & Nilizadeh, S. (2023, July). SoK: Content moderation in social media, from guidelines to enforcement, and research to practice. In 2023 IEEE 8th European Symposium on Security and Privacy (EuroS&P) (pp. 868-895). IEEE.

- **Singhal, M.**, Kumarswamy, N., Kinhekar, S., & Nilizadeh, S. (2023, June). Cybersecurity Misinformation Detection on Social Media: Case Studies on Phishing Reports and Zoom's Threat. In Proceedings of the International AAAI Conference on Web and Social Media (Vol. 17, pp. 796-807).

- **Singhal, M.**, Kumarswamy, N., Kinhekar, S., & Nilizadeh, S. (2021). Poster: Detecting Misinformation about Zoom's Security and Privacy Threats. In (NDSS 2022). Received Best Technical Poster Award

- **Singhal, M.**, & Levine, D. (2019, October). Analysis and categorization of drive-by download malware. In 2019 4th International Conference on Computing, Communications and Security (ICCCS) (pp. 1-4). IEEE.

Broader Impact

- Our paper SoK: Content Moderation in Social Media, from Guidelines to Enforcement, and Research to Practice was cited in the official report submitted to *The Committee on Civil Liberties, Justice and Home Affairs* in **The European Union**.

- Our paper SoK: Content Moderation in Social Media, from Guidelines to Enforcement, and Research to Practice was cited in *amicus curiae brief* submitted in **The Supreme Court** case *Gonzalez v. Google LLC*.

Working Papers

- Kumarswamy, N.*, **Singhal, M.***, & Nilizadeh, S. (2023, September). Impact of Stricter Content Moderation on Parler's User Discourse. [Submitting to WWW 2024]   (* Joint Co-First Authors)

- **Singhal, M.**, Pacheco, J., Debi, T., Khorzooghi, S. M. S. M., Asudeh, A., Das, G., & Nilizadeh, S. (2023). Auditing Yelp's Business Ranking and Review Recommendation Through the Lens of Fairness. arXiv preprint arXiv:2308.02129. [Submitting to WWW 2024]

- Aleksandric, A., **Singhal, M.**, Groggel, A., & Nilizadeh, S. (2022). Understanding the Bystander Effect on Toxic Twitter Conversations. arXiv preprint arXiv:2211.10764. [Submitting to WebSci 2024]

- Salehabadi, N., Groggel, A., **Singhal, M.**, Roy, S. S., & Nilizadeh, S. (2022). User Engagement and the Toxicity of Tweets. arXiv preprint arXiv:2211.03856.

Awards

- Awarded the People's Choice Award for my Ph.D. lightning talk on *SoK: Content Moderation in Social Media, from Guidelines to Enforcement, and Research to Practice* at the 50th Anniversary function of The Computer Science and Engineering Department held at The University of Texas at Arlington, 2023.

- Recipient of the Student Travel grant for Euro S&P 2023.

- Awarded the best Ph.D. lightning talk runner-up award for the research lightning talk on *Detecting Misinformation about Zoom's Security and Privacy Threats* at SCRF conference held at The University of Texas at Arlington, 2023.

- Awarded the best project presentation & demo runner-up award for poster *Content Moderation in Social Media, from Guidelines to Enforcement, and Research to Practice* at SCRFconference held at The University of Texas at Arlington, 2023.

- Awarded *The Outstanding TA award* by The Department of Computer Science & Engineering at The University of Texas at Arlington, 2022.

- Awarded the best technical poster for *Detecting Misinformation about Zoom's Security and Privacy Threats* at NDSS conference, 2022.

- Awarded the best technical poster for *Detecting Misinformation about Zoom's Security and Privacy Threats* at SCRF conference held at The University of Texas at Arlington, 2022.

- Recipient of the Student Travel grant for USENIX Security 2021.

- Awarded the best poster at IEEE MetroCon Conference, 2019.

- Awarded *The Computer Science Scholarship* by The Department of Computer Science & Engineering at The University of Texas at Arlington, 2019.

Service

- Program committee member for The 16th Workshop on Cybersecurity Experimentation and Test Workshop (CSET 2023).

- Served as the Event Facilitator for OurCS@DFW & SCRF 2023 at The University of Texas at Arlington

- Reviewer for Humanities & Social Sciences Communications Journal

- Sub-reviewer for Transactions on Information Forensics & Security, PoPETs/PETS 2023, Euro S&P 2022, USENIX Security 2020 & 2021, RAID 2020, E-Crimes 2020

Teaching Experience

- **Instructor:**
  Information Security I (CSE 4380) - Spring 2024 - 36 Students
  Information Security I (CSE 4380) - Fall 2023 - 20 Students
  Information Security I (CSE 4380) - Spring 2023 - 36 Students
  Information Security I (CSE 4380) - Fall 2021 - 27 Students

- **Graduate Teaching Assistant:**
  Information Security I (CSE 4380) - Spring 2024 - 36 Students
  Information Security I (CSE 4380) - Fall 2023 - 20 Students
  Information Security I (CSE 4380) - Spring 2023 - 36 Students
  Information Security I (CSE 4380/5380) - Fall 2022 - 36 Students
  Programming Language Concepts (CSE 3302/5307) - Summer 2022 - 70 Students
  Database Systems (CSE 5330) - Spring 2021 - 44 Students
  Information Security I (CSE 4380) - Fall 2020 - 36 Students
  Discrete Structures (CSE 2315) - Summer 2020 - 27 Students
  Secure Programming (CSE 4382/5382) - Spring 2020 - 45 Students
  Information Security I (CSE 4380) - Fall 2019 - 25 Students
  Information Security I (CSE 4380/5380) - Spring 2019 - 38 Students
  Information Security I (CSE 4380) - Fall 2018 - 39 Students

Mentorship

- Mentoring Javier Pacheco (Fall 2022 – Fall 2023) [Bachelor Student]

- Mentoring Keren Valdez (Fall 2022 – Present) [Bachelor Student]

- Mentored Katia Lopez (Spring 2022) [Bachelor Student]

- Mentored Micheal Brady (Fall 2021) [Bachelor Student]

- Mentored Nihal Kumarswamy (Fall 2020 – Spring 2022) [Bachelor to Master Student]

- Mentored Shreyasi Kinhekar (Fall 2020 – Spring 2022) [Bachelor Student]

Technical Skills

Languages: Java, Python, C/C++, SQL, HTML/CSS, R, C#
Developer Tools: Git, Visual Studio, Eclipse, OllyDbg, VMRay, Cuckoo Sandbox, Process Hacker, Process Explorer, Regshot
Libraries: Pandas, NumPy, Matplotlib, Sklearn, Tensorflow, Keras

References

Dr. Shirin Nilizadeh
Assistant Professor, The University of Texas at Arlington
shirin.nilizadeh@uta.edu

Dr. Gautam Das
Distinguished University Chair Professor and Associate Dean of Research, The University of Texas at Arlington
gdas@uta.edu

Dr. Gianluca Stringhini
Associate Professor, Boston University
gian@bu.edu

Dr. Abolfazl Asudeh
Assistant Professor, University of Illinois at Chicago
asudeh@uic.edu