

# Aafaq Sabir

asabir2@ncsu.edu

<https://aafaqsabir.org/>

<https://github.com/aafaq52>

<https://www.linkedin.com/in/aafaqsabir/>

Raleigh, North Carolina, USA

## EDUCATION

### North Carolina State University (NCSU)

Ph.D. Computer Science (CGPA: 4.0/4.0), Advisor: Dr. Anupam Das

Fall 2021 — Fall 2026 (Expected)

Ph.D. Proposal Defense: Passed

Fall 2025

MS Computer Science (CGPA: 4.0/4.0)

Fall 2024

### Lahore University of Management Sciences (LUMS)

BS Computer Science (CGPA 3.57/4.0)

August 2016 — May 2020

## EXPERIENCE

### WSPR Lab @ North Carolina State University (NCSU)

Raleigh, North Carolina

Graduate Research Assistant (5th year PhD student)

Aug 2021 — Present

- I do user privacy and compliance research on Smart Voice Assistants and IoT devices involving developing AI-based compliance enforcement tools, user studies, and online targeted advertisement
- **Research Interests:** Identification and Mitigation of Privacy Concerns in Smart Voice Assistants and Emerging IoT Devices, Third-Party Service Compliance, Human-Centered Security and Privacy, User Profiling and Targeted Ads

### Allthenticate

Houston, Texas

Software Engineer (Summer Intern)

May — Aug 2023

- As a summer SWE intern (Full-stack Software Engineer), I developed components of the admin portal built on Flask, Vue 3, MongoDB, and SQL. Updated SQL scheme to support new features
- Improved the event logging for more granular controls and history for customers and the company itself
- Analyzed logs and estimated the efficiency of the company's security products

### Educative.io

Lahore, Pakistan

Technical Content Engineer

Aug 2020 — Sep, 2021

- I created Vue 3 (JavaScript framework) course, along with several other courses on programming languages

## RESEARCH PUBLICATIONS

- Aafaq Sabir, Abhinaya S.B., Dilawer Ahmed, and Anupam Das. Privacy by Voice: Designing Usable Privacy Interventions for the Voice Interface. Accepted at *PETS 2026*.
- Dilawer Ahmed, Aafaq Sabir, Ahsan Zafar and Anupam Das. PriVA-C: Defending Voice Assistants from Fingerprinting Attacks. *PETS 2026. (Received Best Paper Runner-up Award)*
- Aafaq Sabir, Abhinaya S.B., Dilawer Ahmed, and Anupam Das. Analyzing Ad Prevalence, Characteristics, and Compliance in Alexa Skills. *IEEE S&P 2025*.
- Dilawer Ahmed, Aafaq Sabir, and Anupam Das. Spying through your voice assistants: realistic voice command fingerprinting. *USENIX Security 2023*.
- Shaohu Zhang, Aafaq Sabir, and Anupam Das. Speaker Orientation-Aware Privacy Control to Thwart Misactivation of Voice Assistants. *DSN 2023*.
- Aafaq Sabir, Evan Lafontaine, and Anupam Das. Hey Alexa Who am I talking to?: Analyzing User's Perception and Awareness regarding Third-party Alexa Skills. *CHI 2022*.
- Aafaq Sabir, Evan Lafontaine, and Anupam Das. Analyzing the Impact and Accuracy of Facebook Activity on Facebook Ad-Interest Inference Process. *CSCW 2022*.
- Ahsan Zafar, Aafaq Sabir, Dilawer Ahmed, and Anupam Das. Understanding the Privacy Implications of Adblock Plus's Acceptable Ads. *ASIACCS 2021*.

## POSTER PRESENTATIONS

- Aafaq Sabir, Anupam Das. Automated Interaction With Smart Virtual Assistants Voice Apps Using Large Language Models. Presented at *USENIX Security '23*.
- Shaohu Zhang, Aafaq Sabir, Anupam Das. Enhancing Security and Privacy Control for Voice Assistants Using Speaker Orientation. Presented at *WiSec '23*.
- Evan Lafontaine, Aafaq Sabir, Anupam Das. Understanding people's attitude and concerns towards adopting IoT devices. Presented at *CHI Extended Abstracts '21*.

## PAPER PRESENTATIONS

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- Presented the paper “Analyzing Ad Prevalence, Characteristics, and Compliance in Alexa Skills” at 2025 IEEE Symposium on Security and Privacy (SP), San Francisco, CA, USA. **Available online:** <https://www.youtube.com/watch?v=Kh6FaZ2Cx2w>
- Presented the paper “Hey Alexa, Who Am I Talking to?: Analyzing Users’ Perception and Awareness Regarding Third-party Alexa Skills” at 2022 CHI Conference on Human Factors in Computing Systems, New Orleans, LA, USA. **Available online:** <https://www.youtube.com/watch?v=EhLvM2cIQXE>
- Presented the paper “Analyzing the Impact and Accuracy of Facebook Activity on Facebook’s Ad-Interest Inference Process” at 2022 Proceedings of ACM Hum. Comput. Interact. 6, CSCW. **Available online:** <https://www.youtube.com/watch?v=iMjSaFPWNNQ>

## TEACHING EXPERIENCE

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<b>North Carolina State University (NCSU)</b> <i>Instructor and Administrator (Summer Semester)</i>	Raleigh, North Carolina <i>May — July 2025</i>
• Appointed as Instructor and Administrator for CSC 116 Intro to Programming in Java	
<i>Teaching Assistant</i>	<i>Jan — May 2023</i>
• Appointed as TA for CSC 574 (Computer and Network Security): Delivered lecture on Anonymous Communication	

## FELLOWSHIPS

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<b>North Carolina State University</b> <i>Mentored Teaching Fellow</i>	Raleigh, North Carolina <i>Jan — May 2026</i>
• Selected as Mentored Teaching Fellow for the course CSC 433: Privacy in the Digital Age	
• Responsibilities include teaching (delivering lectures), improving course structure and components i.e., homeworks, programming assignments, and projects.	

## LEADERSHIP AND OUTREACH ACTIVITIES

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<b>In Collaboration with North Carolina School of Science and Mathematics (NCSSM)</b> <i>Summer Research Mentor. Mentee: Adrtita Fuad</i>	Raleigh, North Carolina <i>May — July 2024</i>
<b>North Carolina State University (NCSU)</b> <i>BS Independent Research Mentor. Mentee: Divya Srinivasan</i>	Raleigh, North Carolina <i>September 2023 — April 2024</i>
<b>North Carolina State University (NCSU)</b> <i>MS Independent Research Mentor. Mentee: Pratik Devnani</i>	Raleigh, North Carolina <i>January 2023 — May 2023</i>
<b>In Collaboration with North Carolina School of Science and Mathematics (NCSSM)</b> <i>Summer Research Mentor. Mentees: Jonathan Liang, Eric Ge</i>	Raleigh, North Carolina <i>May — July 2022</i>
<b>In Collaboration with King AbdulAziz University (KAU)</b> <i>Summer Research Mentor. Mentees: Abdulaziz Altamimi, Jasser Al-Ahmadi</i>	Raleigh, North Carolina <i>May — July 2022</i>

## AWARDS

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- Recipient of College of Engineering CSC Department Travel Award 2023 of \$1000 for Conference Travel Reimbursement (IEEE S&P 2025).
- Recipient of College of Engineering CSC Department Travel Award 2023 of \$1000 for Conference Travel Reimbursement (USENIX Security 2023).
- Recipient of SIGCHI Gary Marsden Travel Awards 2022 of \$700 for Conference Travel Reimbursement (CHI 2022).
- Recipient of College of Engineering CSC Department Travel Award 2022 of \$1000 for Conference Travel Reimbursement (CHI 2022).

## PEER REVIEWING

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- Served as Program Committee member for the conference: The 20th International AAAI Conference on Web and Social Media, ICWSM 2026.
- Invited reviewer for the conference: The 29th ACM Conference on Computer-Supported Cooperative Work and Social Computing, CSCW 2026.

## GRANTS

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<b>North Carolina State University (NCSU)</b> <i>Assisted Dr. Anupam Das (PhD Advisor) with research proposals and grant writing.</i>	Raleigh, North Carolina
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## SKILLS

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- **Analytics/Research:** Fine-tuning LLMs, ML (Tensorflow), Statistical Analysis (regression, ANOVA, multi-variate methods), Qualitative and Quantitative methods, Algorithmic Auditing, Causal inference
- **Cloud computing:** AWS, GCP, Local org cloud servers
- **Dev stack:** Node.js, Vue.js, Express, MongoDB, Browser Extension, Android Dev
- **Programming languages/Tools:** Python, R, C++, C, JavaScript, Golang, Java, SQL, MongoDB, Docker

## BUG BOUNTIES

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- Received \$200 Bug Bounty in Amazon Vulnerability Research Program - Devices (2024)

## SOFTWARE ENGINEERING PROJECTS

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**CheckMate:** Built an online platform to conduct a coding competition. The web app runs the submitted code (currently supports C++), evaluates the results based on the provided test cases, and updates the leaderboard

**QAnon:** Built a truly anonymous question answering platform on MERN stack with the functionality of comment replies

## NOTABLE COURSES

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**Grad:** Computer and Network Security, Cryptography, OS Security, Adv. Internet Protocols, Compiler Construction

**Undergrad:** Artificial Intelligence, Network Security, Software Engineering, NLP, Operating systems, Algorithms

## REFERENCES

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Dr. Anupam Das (anupam.das@ncsu.edu), Dr. Brad Reaves (bgreaves@ncsu.edu),

Dr. Dominik Wermke (dwerpke@ncsu.edu)