

ABHINAYA S B

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I am a third year Ph.D. student at North Carolina State University. I work on improving online safety and privacy for people using human-centered and data-driven methods. My research includes usable security, privacy, and safety for emerging tech such as VR, privacy indicator design for voice assistants, and studying the persuasion tactics used by online scammers.

Education

North Carolina State University (NCSU), Raleigh, USA **Aug 2022 - Present**
PhD in Computer Science; *Advised by Dr. Anupam Das (WSPR lab)* CGPA: 4.00/4.00
Selected Courses: Human-centered security, Computer and Network Security, Research Methods in Human-Centered Computing, Cryptography, Software Security, Advanced network security

National Institute of Technology, Tiruchirappalli, India **Jul 2015 - May 2019**
Bachelor of Technology (Honours) in Computer Science and Engineering CGPA: 9.74/10.00

Publications

Peer-Reviewed Conference Publications

- “What are they gonna do with my data?”: Privacy Expectations, Concerns, and Behaviors in Virtual Reality
Abhinaya S.B., Abhishri Agrawal, Yaxing Yao, Yixin Zou, Anupam Das
Privacy Enhancing Technologies Symposium (PETS), Jul 2025. [paper]
- Analyzing Ad Prevalence, Characteristics, and Compliance in Alexa Skills
Aafaq Sabir, Abhinaya S.B., Dilawer Ahmed, Anupam Das
IEEE Symposium on Security and Privacy, May 2025. (Acceptance Rate: 14.8%)
- Enabling Developers, Protecting Users: Investigating Harassment & Safety in VR
Abhinaya S.B., Aafaq Sabir, Anupam Das
USENIX Security Symposium, Aug 2024. (Acceptance Rate: 18.3%) [paper]
- Understanding Parents’ Perceptions and Practices Toward Children’s Security and Privacy in Virtual Reality
Jiaxun Cao, Abhinaya S.B., Anupam Das, Pardis Emami-Naeini
IEEE Symposium on Security and Privacy, May 2024. (Acceptance Rate: 17.8%) [paper]
- A Question Answering and Quiz Generation Chatbot for Education
A S Sreelakshmi, Abhinaya S.B., Aishwarya Nair, S Jaya Nirmala
Grace Hopper Celebration India (GHCI), Nov 2019. [paper]

Peer-Reviewed Journal Publications

- Unveiling Users’ Security and Privacy Concerns Regarding Smart Home IoT Products from Online Reviews
Taufiq Islam Protick, Aafaq Sabir, Abhinaya S.B., Aiden Bartlett, Anupam Das
ACM Journal on Computing and Sustainable Societies, Aug 2024. [paper]
- A Survey of Techniques for improving Security of GPUs
Sparsh Mittal, Abhinaya S.B., Manish Reddy, Irfan Ali
Journal of Hardware and Systems Security, Sep 2018. [paper]

Posters

- Virtual Adventures, Real Challenges: Analyzing Harassment Controls in VR
Abhinaya S.B., Aafaq Sabir, Anupam Das
USENIX Security Symposium, Aug 2023. [poster]

2. Protego Totalum! Mitigating Harassment in Virtual Reality

Abhinaya S.B., Aafaq Sabir, Anupam Das

Graduate Student Research Symposium, NC State University, Apr 2023.

[abstract]

Employment & Experience

1. **Research Experience:** Graduate Research Assistant, NC State University May 2023 - Present
Usable security and privacy research in virtual reality technology.
2. **Teaching Experience:** Graduate Teaching Assistant, NC State University
 - CSC 433 Privacy in the Digital Age Jan 2023 - May 2023
 - CSC 326 Software Engineering Aug 2022 - Dec 2022
3. **Industry Experience**
 - (a) **Engineer, Qualcomm India Pvt. Ltd.** Dec 2020 - Jun 2022
Designed a prototype to optimize memory resource for concurrent workloads on the AI-processor; added support for testing across 2 simulators, 1 emulator, 2 Linux and 1 Windows based platforms.
 - (b) **Associate Engineer, Qualcomm India Pvt. Ltd.** Jul 2019 - Nov 2020
Developed a suite of tests and support tools for Qualcomm's AI-processor, that identified 5 critical HW issues; presented work at internal conferences, Qbuzz (India) and ML Summit (international) with 3K+ total attendees.
 - (c) **Interim Engineering Intern, Qualcomm India Pvt. Ltd.** May 2018 - Jul 2018
Analyzed Google's Pixel Visual Core based image capture to derive architectural insights.

Skills

Programming	Python, C++, C, Java, Tensorflow, HTML/CSS, Javascript
Tools	Dedoose, Android Studio, MATLAB, Network Simulator, Trace32, Zotero, L ^A T _E X
Methods	Survey Design, Interview Design, Qualitative & Quantitative Analysis, Prompt Engineering

Invited Talks & Lectures

- **Towards Better Privacy & Safety for VR Users** Oct 2024
Invited Talk, Triangle Area Privacy and Security Day (TAPS), Duke University
- **Human-Centered Security & Privacy Research for Virtual Reality** Sep 2024
Classroom lecture, CSC 801: Seminar in Computer Science, North Carolina State University
- **Panel discussion for early-stage PhD students** Sep 2024
Panelist, CSC 801: Seminar in Computer Science, North Carolina State University
- **Enabling Users, Protecting Developers: Investigating Harassment and Safety in Virtual Reality** Aug 2024
Conference presentation, 33rd USENIX Security Symposium, Philadelphia, PA, USA
- **Enabling Users, Protecting Developers: Investigating Harassment and Safety in Virtual Reality** Feb 2024
Invited talk, 3rd annual North Carolina Cybersecurity Symposium

Awards & Honors

- **USENIX Security'24 Diversity Grant:** Awarded 625 USD to attend USENIX Security Symposium in Aug 2024
- **Graduate Merit Award:** Awarded 3000 USD by the College of Engineering, NCSU in Mar 2024
- **RSA Security Scholar:** Selected as a Security Scholar to attend the RSA conference, in Nov 2023
- **USENIX Security'23 Diversity Grant:** Awarded 850 USD to attend USENIX Security Symposium in Aug 2023

- **GREPSEC Scholar:** Awarded 970 USD to attend the GREPSEC VI workshop in Aug 2023
- **Graduate Enhancement Award:** Awarded 2850 USD by the College of Engineering, NCSU in Apr 2023
- **North Carolina State University Graduate Fellowship:** Awarded 4000 USD by NCSU in Feb 2022

Service

- External Reviewer: ACSAC'23, CCS'23, IEEE S&P'24, PETS'24, CHI'24, CSCW'24, USEC'24, S&P'25
- Artifact Evaluation Committee: USENIX Security'23, USENIX Security'24, USENIX Security'25

Leadership

- Interview Prep Nights Committee, Women in Computer Science (WiCS), NCSU Jul 2023 - May 2024
- Vice President, Public Relations, Qonverse Toastmasters Club, Bangalore Jul 2021 - Dec 2021
- Secretary, Qonverse Toastmasters Club, Bangalore Jan 2022 - Jun 2022

Mentoring

- Abhishri Agrawal, UNC-Chapel Hill
- Dinesh Karnati, North Carolina State University
- Tarun Puvvala, North Carolina School of Science and Mathematics
- Noah Chang, North Carolina School of Science and Mathematics