ABHINAYA S B

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I am a second year Ph.D. student at North Carolina State University advised by Dr. Anupam Das. I am interested in trust and safety in emerging technologies, and conduct usable security, privacy and safety research for virtual reality.

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
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

1. **Enabling Developers, Protecting Users: Investigating Harassment & Safety in VR**
   Abhinaya S.B., Aafaq Sabir, Anupam Das
   USENIX Security Symposium, Aug 2024. 　　　　　　　　　　　　**[preprint]**

2. **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%)　　**[preprint]**

3. **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]**

Journal Publications

1. **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

1. **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.

Awards & Honors

- **RSA Security Scholar:** Selected as a Security Scholar to attend the RSA conference in May 2024
- **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
- Artifact Evaluation Committee: USENIX Security'23, USENIX Security'24

Invited Talks

Enabling Users, Protecting Developers: Investigating Harassment and Safety in Virtual Reality

Presented at the 3rd annual North Carolina Cybersecurity Symposium   Feb 2024

Skills

Programming	C, C++, Python, Java, Tensorflow, HTML/CSS, Javascript, Three.js, Angular.js
Tools	Dedoose, Android Studio, MATLAB, Network Simulator, Trace32, Zotero, LaTeX
Methods	Survey Design, Interview Design, Qualitative Analysis

Leadership

- Interview Prep Nights Committee, Women in Computer Science (WiCS), NCSU   Jul 2023 - Present
- Vice President, Public Relations, Qonverse Toastmasters Club, Bangalore   Jul 2021 - Dec 2021
- Secretary, Qonverse Toastmasters Club, Bangalore   Jan 2022 - Jun 2022
- Manager, Content for Pragyan, technical fest of NIT Trichy   2018-2019
- Manager, Computer Science and Engineering Association, NIT Trichy   2018-2019
- Head, Content for Festember, annual cultural extravaganza of NIT Trichy   2017-2018
- Executive Committee Member, National Service Scheme, NIT Trichy   2015-2016

Mentoring

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