ANUPAM DAS

Assistant Professor ► Department of Computer Science ► North Carolina State University

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EDUCATION

University of Illinois at Urbana-Champaign (UIUC), Urbana, IL 2016

- **Ph.D.**, Computer Science
- Dissertation: *Understanding and Mitigating the Privacy Risks of Smartphone Sensor Fingerprinting*
- Advisor: Dr. Nikita Borisov

Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh 2010

- **M.S.**, Computer Science and Engineering
- Thesis: *Dynamic Trust Model for Multi-agent Systems*
- Advisor: Dr. M. Mahfuzul Islam

Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh 2008

- **B.S.**, Computer Science and Engineering
- Thesis: *Evolution of Neural Network using Genetic Algorithm*
- Thesis Supervisor: Dr. Md. Monirul Islam and Dr. Md. Shohrab Hossain

ACADEMIC AND RESEARCH APPOINTMENTS

Assistant Professor 2019 – present
Computer Science, North Carolina State University (NCSU), Raleigh, NC

Postdoctoral Fellow 2016 – 2018
School of Computer Science, Carnegie Mellon University (CMU), Pittsburgh, PA
(Worked with *Norman Sadeh*, *Lorrie Cranor* and *Lujo Bauer*)

Research Assistant 2011 – 2016
Computer Science, University of Illinois at Urbana-Champaign, Urbana, IL

Lecturer 2008 – 2010
Computer Science and Engineering, Bangladesh University of Engr. and Tech., Dhaka, Bangladesh

TEACHING

Instructor, Department of Computer Science, NCSU

- CSC 433 – Privacy in the Digital Age: Spring 2021, Spring 2022, Spring 2023
- CSC 533 – Privacy in the Digital Age: Fall 2020, Fall 2021, Fall 2022, Fall 2023, Fall 2024
- CSC 495 – Special topic in Privacy: Spring 2019, Spring 2020
- CSC 591 – Special topic in Privacy: Fall 2019

Guest Lecturer, School of Computer Science, CMU

- CS 15-421/08-731 – Information Security and Privacy: Fall 2016

Instructor, Department of Computer Science and Engineering, BUET

- CSE 321 – Computer Networks: May 2010
- CSE 209 – Digital Electronics and Pulse Techniques: Oct. 2009
- CSE 409 – Computer Graphics: Mar. 2009
- CSE 205 – Digital Logic Design: Jul. 2008
- CSE 100 – Introduction to Computer Programming: Apr. 2008

Cisco Regional Academy Instructor, BUET

- CNNA Exploration Module 1 to 4: May 2008 – Aug. 2010

STUDENTS/MENTORING

Current PhD Students: Dilawer Ahmed; Ahsan Zafar; Aafaq Sabir, Abhinaya Srividhya Balaji; Md. Jakaria; Shaown Sarker (co-advised with Alexandros Kapravelos), Taufiq Islam Protick
Current PhD Committees: Sathvik Prasad [advised by Dr. Brad Reaves], Lorenzo Neil [advised by Dr. Brad Reaves], Chinmaya Dabral [advised by Dr. Chris Martens], Srinivas Tenneti [advised by Dr. Khaled Abdel Harfoush], Nikolaos Pantelaios [advised by Dr. Alexandros Kapravelos], Md Farhamdur Reza [advised by Dr. Huaiyu Dai]
Past PhD Committees: Shaohu Zhang (Chair), Varun Madathil [advised by Dr. Alessandra Scafuro], Ferdous Pervej [advised by Dr. Huaiyu Dai], Ali Rahmati [advised by Dr. Huaiyu Dai], Md Hafizul Islam [advised by Dr. Julie S. Ivy], Jordan Jueckstock [advised by Dr. Alexandros Kapravelos], Albert Gorski [advised by Dr. Will Enck]
Past Master's Students: Mohan Yelugoti, Ahmed Taimoor, Pratik Devnani, Vamsi Varada, Lee Shyu, Sheel Jayesh Shah, Mohammad Maruful Haque, Vishwa Shah, Suraj Siddharudh, Prashanthi Kanniappan, Akshay Raul, Deepayan Bardhan, Akshay Pradeep Raul, Shwetha Kalyanaraman
Past Master's Committees: Sanket Goutam (Spring 2019) [advised by Dr. Will Enck and Dr. Brad Reaves]
Past Undergraduate Students: Harshita Gupta, Divya Srinivasan, Abhishri Agrawal (UNC), Kevin Childs, Daniel Nolting, Anika Bhadriraju, Garret Knapp, Evan Lafontaine, Pradhan Chetan Venkataramaiah, Graeme Zimmermann, Amanda Richardson, Neetya Shah, Courtney Weglar
High School Students (NCSSM Summer Mentorship Program): Adrita Fuad (Summer 2024), Taran Puvvala (Summer 2023), Noah Chang (Summer 2023), Jonathan Liang (Summer 2022), Eric Ge (Summer 2022), Benjamin Zhang (Summer 2021), Aditya Basarkar (Summer 2021)

INDUSTRIAL EXPERIENCE

Research Intern Spring 2015
Google, Mountain View, CA
Research Intern Summer 2014
VMware, Palo Alto, CA
Research Associate Summer 2013
DisruptDev (startup), New York, NY
Research Intern Summer 2012
NEC Labs America, Princeton, NJ

AFFILIATIONS

- The Association for Computing Machinery (ACM)
- The Institute of Electrical and Electronics Engineers (IEEE)
- USENIX Advanced Computing Systems Association (USENIX)

HONORS AND AWARDS

- **12th Annual Privacy Papers for Policymakers (PPPM) Award**, 2022
- **CS@NCSU 2019-20 ACM/AITP Faculty Award: Carol Miller Outstanding Undergraduate Lecturer**, 2020.
- **Best Paper Award at the 8th ACM International Conference on Multimedia System (MMSys)**, *with Junjue Wang, Brandon Amos, Padmanabhan Pillai, Norman Sadeh, and Mahadev Satyanarayanan*, June 2017.
- **Distinguished Poster Award at the 13th USENIX Symposium on Usable Privacy and Security (SOUPS)**, *with Norman Sadeh, Martin Degeling, Aerin Shikun Zhang, Alessandro Acquisti, Lujo Bauer, Lorrie Cranor, Anupam Datta, and Daniel Smullen*, July 2017.
- **Best Paper Award at the 9th ACM Symposium on Information, Computer and Communications Security (ASIACCS)**, *with Nikita Borisov, Prateek Mittal, and Matthew Caesar*, June 2014.
- **Symantec Research Labs Fellowship Finalist**, 2015.
- **Feng Chen Memorial award**, *University of Illinois at Urbana-Champaign*, 2015.
- **Fulbright Science and Technology Fellow**, 2010 – 2013.
- **Student Travel Grants** to CCS 2014, HotSoS 2014, ASIACCS 2014, FC 2013, PETS 2013, DIMACS 2013 and IEEE LCN 2010.

- **Academic merit scholarship in each of the eight semesters for outstanding result**, *Bangladesh University of Engineering and Technology*, 2003 – 2007.

PATENTS

- **US9143452B2**. FlowComb: Boosting Big Data Processing with OpenFlow, *Cristian Lumezanu, Anupam Das, Yueping Zhang, Vishal Kumar Singh, Curtis Yu, Guofei Jiang*, September 22, 2015
- **US20190108353A1**. Personalized Privacy Assistant, *Norman Sadeh, Bin Liu, Anupam Das, Martin Degeling, Florian Schaub*, March 23, 2021
- **US11768949B2**. Personalized Privacy Assistant, *Norman Sadeh, Bin Liu, Anupam Das, Martin Degeling, Florian Schaub*, September 23, 2023

RESEARCH SUPPORT

Total reserach support is over **$2.5 Million** (personal share $1.4 Million)

- Title: **Collaborative Research: SaTC: CORE: Small: Towards Secure, Resilient, Privacy-enhancing Digital World Experiences**
  Sponsor: **National Science Foundation (NSF)**
  Total Award: $600,000 [my share: $200,000]
  Duration: 3 years (July 01, 2024 – June 30, 2027)
  Lead PI

- Title: **Predictors of privacy preferences in social virtual reality**
  Sponsor: **Meta**
  Total Award: $100,000
  Lead PI

- Title: **Privacy-Preserving Analytics for Emerging IoT Devices**
  Sponsor: **Center for Accelerated Real Time Analytics (CARTA)** - NCSU Research Site
  Total Award: $60,000
  Duration: 1.5 years (July 01, 2022 – Dec 31, 2023)
  Single PI

- Title: **Physical Context-aware Voice Assistant for Smart Homes**
  Sponsor: **Meta**
  Total Award: $75,000
  Lead PI

- Title: **Collaborative Research: IMR: MM-1C: Privacy-preserving IoT Analytics and Behavior Prediction on Network Edge**
  Sponsor: **National Science Foundation (NSF)**
  Total Award: $600,000 [my share: $300,004]
  Duration: 3 years (Oct. 01, 2022 – September 30, 2025)
  Lead PI

- Title: **Collaborative Research: SaTC: CORE: Medium: Defending against Emerging Stateless Web Tracking**
  Sponsor: **National Science Foundation (NSF)**
  Total Award: $799,081 [my share: $399,540]
  Duration: 4 years (June 01, 2022 – May 31, 2026)
  Co PI

- Title: **Fingerprinting IoT Devices at Real Time using Encrypted Traffic**
  Sponsor: **Center for Accelerated Real Time Analytics (CARTA)** - NCSU Research Site
  Total Award: $60,000
  Duration: 1.5 years (Jan 01, 2022 – May 31, 2023)
  Single PI

- Title: **CRII: SaTC: Analyzing Information Leak in Smart Homes**
  Sponsor: **National Science Foundation (NSF)**
  Total Award: $174,995
  Duration: 3 years (June 01, 2019 – May 31, 2022)
  Single PI

- Title: **Understanding People's Privacy Perceptions, Concerns and Preferences in Using Internet of Things (IoT) Technologies**
  Sponsor: **NCSU FRPD**
  Total Award: $10,000
  Duration: 1 year (July 1, 2019 - June 30, 2020)
  Single PI

- Title: **Analyzing the Effectiveness of Existing Security Indicators for the Alexa Skill Ecosystem**
  Sponsor: **Amazon**
  Total Award: $35,000
  Single PI

PROFESSIONAL ACTIVITIES

Conference and Workshop Organization:

- Poster Chair: ACSAC 2024
- Poster Chair: IEEE S&P 2022
- Co-chair: ACM MMSys Special session on IoT and Smart cites 2018

Technical Program Committees:

- ACM Conference on Computer and Communications Security (CCS): 2017, 2021, 2022, 2023, 2024.
- IEEE Symposium on Security and Privacy (S&P): 2021, 2024, 2025.
- USENIX Security: 2021, 2022.
- ISOC Network and Distributed System Security Symposium (NDSS): 2020, 2021.
- Privacy Enhancing Technologies Symposium (PETS): 2019, 2020, 2021, 2023, 2025.
- International World Wide Web Conference (WWW): 2018.
- Annual Computer Security Applications Conference (ACSAC): 2021, 2023.
- ACM Workshop on Privacy in the Electronic Society (WPES): 2018, 2020.
- IEEE CVPR Workshop on The Bright and Dark Sides of Computer Vision: Challenges and Opportunities for Privacy and Security (CV-COPS): 2018.

Reviewer (Journal and Magazine): ACM Transactions on the Web: 2017; ACM Transactions on Privacy and Security: 2017, 2018, 2019, 2020, 2023; IEEE Transactions on Dependable and Secure Computing: 2013; IEEE Transactions on Information Forensics and Security: 2016, 2017, 2019; IEEE Pervasive Computing: 2018; IEEE Transactions on Mobile Computing: 2019; Elsevier Pervasive and Mobile Computing: 2015;

External Reviewer (Conference and Workshop): ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (PACM IMWUT): 2021, 2024; ACM Conference on Human Factors in Computing Systems (CHI): 2018, 2020, 2024; ACM Conference on Computer and Communications Security (CCS): 2011, 2012, 2014, 2015; IEEE Symposium on Security and Privacy (IEEE S&P): 2017; ISOC Networked and Distributed System Security Symposium (NDSS): 2012, 2016; USENIX Security Symposium: 2012, 2013, 2016, 2017; USENIX Symposium on Usable Privacy and Security (SOUPS): 2017; ACM Communications and Computer Networks (SigComm): 2014; IEEE Conference on Local Computer Networks (LCN): 2010; ACM Genetic and Evolutionary Computation Conference (GECCO): 2009;

PUBLICATIONS

JOURNAL PUBLICATIONS

1. Mohammad Shamim Ahsan, Md. Shariful Islam, Md. Shohrab Hossain, and Anupam Das. Detecting smart home device activities using packet-level signatures from encrypted traffic. *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 2024.

2. Md Jakaria, Danny Yuxing Huang, and Anupam Das. Connecting the dots: Tracing data endpoints in iot devices. *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2024(3), 2024.

3. Taufiq Islam Protick, Aafaq Sabir, S.B. Abhinaya, and Anupam Das. Unveiling users' security and privacy concerns regarding smart home iot products from online reviews. *ACM Journal on Computing and Sustainable Societies*, 2024.

4. Aafaq Sabir, Evan Lafontaine, and Anupam Das. Analyzing the impact and accuracy of Facebook activity on Facebook's ad-interest inference process. *Proceedings of the ACM on Human-Computer Interaction (PACM HCI)*, 6(CSCW1), 2022.

5. Dilawer Ahmed, Anupam Das, and Fareed Zaffar. Analyzing the feasibility and generalizability of fingerprinting Internet of Things devices. *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2022(2), 2022.

6. Shikun Zhang, Yuanyuan Feng, Lujo Bauer, Lorrie Cranor, Anupam Das, and Norman Sadeh. "Did you know this camera tracks your mood?": Understanding privacy expectations and preferences in the age of video analytics. *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2021(2):1–22, 2021.

7. Anupam Das, Nikita Borisov, and Edward Chou. Every move you make: Exploring practical issues in smartphone motion sensor fingerprinting and countermeasures. *Proceedings on Privacy Enhancing Technologies*, 2018(1):88–108, 2018.

8. Junjue Wang, Brandon Amos, Anupam Das, Padmanabhan Pillai, Norman M. Sadeh, and Mahadev Satyanarayanan. Enabling live video analytics with a scalable and privacy-aware framework. *ACM Transactions on Multimedia Computing, Communications and Applications (TOMM)*, 14(3s):64:1–64:24, 2018.

9. Joshua Juen, Aaron Johnson, Anupam Das, Nikita Borisov, and Matthew Caesar. Defending tor from network adversaries: A case study of network path prediction. *Proceedings on Privacy Enhancing Technologies*, 2015(2):171–187, 2015.

10. Anupam Das and Mohammad Mahfuzul Islam. SecuredTrust: A dynamic trust computation model for secured communication in multiagent systems. *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 9(2):261–274, 2012.

PEER-REVIEWED CONFERENCE PUBLICATIONS

1. Jiaxun Cao, Abhinaya S.B., Anupam Das, and Pardis Emami-Naeini. Understanding parents' perceptions and practices toward children's security and privacy in virtual reality. In *Proceedings of the 45th IEEE Symposium on Security and Privacy (IEEE S&P)*, 2024. (Acceptance Rate: 17.8%).

2. Shaown Sarker, William Melicher, Oleksii Starov, Anupam Das, and Alexandros Kapravelos. Automated generation of behavioral signatures for malicious web campaigns. In *Proceedings of the 27th Information Security Conference (ISC)*, 2024. (Acceptance Rate: 28.3%).

3. Shaown Sarker, Aleksandr Nahapetyan, Anupam Das, and Alexandros Kapravelos. JSHint: Revealing API usage to improve detection of malicious JavaScript. In *Proceedings of the 27th Information Security Conference (ISC)*, 2024. (Acceptance Rate: 28.3%).

4. Abhinaya S.B., Aafaq Sabir, and Anupam Das. Enabling developers, protecting users: Investigating harassment and safety in vr. In *Proceedings of the 33rd USENIX Security Symposium (USENIX Security)*, 2024.

5. Dilawer Ahmed, Aafaq Sabir, and Anupam Das. Spying through your voice assistants: Realistic voice command fingerprinting. In *Proceedings of the 32nd USENIX Security Symposium (USENIX Security)*, 2023. (Acceptance Rate: 29.2%).

6. Md Adnan Arefeen, Zhouyu Li, Md Yusuf Sarwar Uddin, and Anupam Das. Metamorphosis: Task-oriented privacy cognizant feature generation for multi-task learning. In *Proceedings of the 8th ACM/IEEE Conference on Internet of Things Design and Implementation (IoTDI)*, page 288–300, 2023. (Acceptance Rate: 30.2%).

7. Zhouyu Li, Ruozhou Yu, Anupam Das, Shaohu Zhang, Huayue Gu, Xiaojian Wang, Fangtong Zhou, Aafaq Sabir, Dilawer Ahmed, and Ahsan Zafar. Inspire: Instance-level privacy-preserving transformation for vehicular camera videos. In *Proceedings of the 32nd International Conference on Computer Communications and Networks (ICCCN)*, 2023. (Acceptance Rate: 30.3%).

8. Ahsan Zafar and Anupam Das. Comparative privacy analysis of mobile browsers. In *Proceedings of the Thirteenth ACM Conference on Data and Application Security and Privacy (CODASPY)*, page 3–14, 2023. (Acceptance Rate: 30.2%).

9. Shaohu Zhang, Zhouyu Li, and Anupam Das. Voicepm: A robust privacy measurement on voice anonymity. In *Proceedings of the 16th ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec)*, page 215–226, 2023. (Acceptance Rate: 35.5%).

10. Shaohu Zhang, Aafaq Sabir, and Anupam Das. Speaker orientation-aware privacy control to thwart misactivation of voice assistants. In *Proceedings of the 53rd Annual IEEE/IFIP International Conference on Dependable Systems and Network (IEEE IFIP DSN)*, 2023. (Acceptance Rate: 20.0%).

11. Aafaq Sabir, Evan Lafontaine, and Anupam Das. Hey alexa, who am i talking to?: Analyzing users' perception and awareness regarding third-party alexa skills. In *Proceedings of the 2022 ACM Conference on Human Factors in Computing Systems (CHI)*, 2022. (Acceptance Rate: 24.7%).

12. Christopher Lentzsch, Sheel Jayesh Shah, Benjamin Andow, Martin Degeling, Anupam Das, and William Enck. Hey Alexa, is this skill safe?: Taking a closer look at the Alexa skill ecosystem. In *Proceedings of the 28th Annual Network and Distributed System Security Symposium (NDSS)*, pages 1–18, 2021. (Acceptance Rate: 17.4%).

13. Ahsan Zafar, Aafaq Sabir, Dilawer Ahmed, and Anupam Das. Understanding the privacy implications of Adblock Plus's acceptable ads. In *Proceedings of the 16th ACM ASIA Conference on Computer and Communications Security (ASIACCS)*, pages 1–14, 2021. (Acceptance Rate: 18.9%).

14. Shaohu Zhang and Anupam Das. Handlock: Enabling 2-FA for smart home voice assistants using inaudible acoustic signal. In *Proceedings of the 24th International Symposium on Research in Attacks, Intrusions and Defenses (RAID)*, pages 1–15, 2021. (Acceptance Rate: 23.9%).

15. Evan Lafontaine, Aafaq Sabir, and Anupam Das. Understanding people's attitude and concerns towards adopting IoT devices. In *Proceedings of the 39th ACM Conference on Human Factors in Computing Systems (CHI)*, pages 1–10, 2021. (Extended Abstract).

16. Tanusree Sharma, Md. Mirajul Islam, Anupam Das, S. M. Taiabul Haque, and Syed Ishtiaque Ahmed. Privacy during pandemic: A global view of privacy practices around COVID-19 apps. In *Proceedings of the ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS)*, pages 1–15, 2021. (Acceptance Rate: 36.8%).

17. Camille Cobb, Milijana Surbatovich, Anna Kawakami, Mahmood Sharif, Lujo Bauer, Anupam Das, and Limin Jia. How risky are real users' IFTTT applets? In *Proceedings of the Sixteenth USENIX Symposium on Usable Privacy and Security (SOUPS)*, pages 505–529, 2020. (Acceptance Rate: 19.8%).

18. Anupam Das, Gunes Acar, Nikita Borisov, and Amogh Pradeep. The web's sixth sense: A study of scripts accessing smartphone sensors. In *Proceedings of the 25th ACM SIGSAC Conference on Computer and Communications Security (CCS)*, pages 1515–1532, October 2018. (Acceptance Rate: 16.6%).

19. William Melicher, Anupam Das, Mahmood Sharif, Lujo Bauer, and Limin Jia. Riding out DOMsday: Towards detecting and preventing DOM cross-site scripting. In *Proceedings of the 25th Annual Network and Distributed System Security Symposium (NDSS)*, February 2018. (Acceptance Rate: 21.5%).

20. Rashid Tahir, Muhammad Huzaifa, Anupam Das, Mohammad Ahmad, Carl Gunter, Fareed Zafar, Matthew Caesar, and Nikita Borisov. Mining on someone else's dime: Mitigating covert mining operations in clouds and enterprises. In *Proceedings of the 20th International Symposium on Research in Attacks, Intrusions and Defenses (RAID)*, pages 287–310, September 2017. (Acceptance Rate: 20.0%).

21. Junjue Wang, Brandon Amos, Anupam Das, Padmanabhan Pillai, Norman Sadeh, and Mahadev Satyanarayanan. A scalable and privacy-aware IoT service for live video analytics. In *Proceedings of the 8th ACM on Multimedia Systems Conference (MMSys)*, pages 38–49, June 2017. (Acceptance Rate: 26.0%).

22. Shouling Ji, Shukun Yang, Anupam Dasand Xin Hu, and Raheem Beyah. Password correlation: Quantification, evaluation and application. In *Proceedings of the 36th IEEE Annual International Conference on Computer Communications (INFOCOM)*, pages 1–9, May 2017. (Acceptance Rate: 20.9%).

23. Milijana Surbatovich, Jassim Aljuraidan, Lujo Bauer, Anupam Das, and Limin Jia. Some recipes can do more than spoil your appetite: Analyzing the security and privacy risks of IFTTT recipes. In *Proceedings of the 26th International World Wide Web Conference (WWW)*, pages 1501–1510, April 2017. (Acceptance Rate: 16.9%).

24. Anupam Das, Nikita Borisov, and Matthew Caesar. Tracking mobile web users through motion sensors: Attacks and defenses. In *Proceedings of the 23rd Annual Network and Distributed System Security Symposium (NDSS)*, February 2016. (Acceptance Rate: 15.4%).

25. Anupam Das, Nikita Borisov, and Matthew Caesar. Do you hear what I hear? Fingerprinting smart devices through embedded acoustic components. In *Proceedings of the 21st ACM SIGSAC Conference on Computer and Communications Security (CCS)*, pages 441–452, November 2014. (Acceptance Rate: 19.5%).

26. Anupam Das, Nikita Borisov, Prateek Mittal, and Matthew Caesar. Re^3: Relay reliability reputation for anonymity systems. In *Proceedings of the 9th ACM Symposium on Information, Computer and Communications Security (ASIACCS)*, pages 63–74, June 2014. (Acceptance Rate: 16.5%).

27. Anupam Das, Nikita Borisov, and Matthew Caesar. Analyzing an adaptive reputation metric for anonymity systems. In *Proceedings of the 1st ACM Symposium and Bootcamp on the Science of Security (HotSoS)*, pages 11:1–11:11, April 2014. (Acceptance Rate: 57.0%).

28. Anupam Das, Joseph Bonneau, Matthew Caesar, Nikita Borisov, and XiaoFeng Wang. The tangled web of password reuse. In *Proceedings of the 21st Annual Network and Distributed System Security Symposium (NDSS)*, February 2014. (Acceptance Rate: 18.6%).

29. Anupam Das and Nikita Borisov. Securing anonymous communication channels under the selective DoS attack. In *Proceedings of the 17th Financial Cryptography and Data Security (FC)*, pages 362–370, April 2013. (Acceptance Rate: 22.5%).

30. Anupam Das, Mohammad Mahfuzul Islam, and Golam Sorwar. Dynamic trust model for reliable transactions in multi-agent systems. In *Proceedings of the 13th IEEE International Conference on Advanced Communication Technology (ICACT)*, pages 1101–1106, February 2011. (Acceptance Rate: 42.8%).

31. Anupam Das and Mohammad Mahfuzul Islam. A novel feedback based fast adaptive trust model for P2P networks. In *Proceedings of the 35th IEEE Conference on Local Computer Networks (LCN)*, pages 552–559, October 2010. (Acceptance Rate: 30.2%).

32. Anupam Das and Saeed Muhammad Abdullah. Evolving multilayer neural networks using permutation free encoding technique. In *Proceedings of the 2009 International Conference on Artificial Intelligence (ICAI)*, pages 32–38, July 2009.

33. Anupam Das, Md. Shohrab Hossain, Saeed Muhammad Abdullah, and Rashed Ul Islam. Permutation free encoding technique for evolving neural networks. In *Proceedings of the 5th International Symposium on Neural Networks: Advances in Neural Networks (ISNN)*, pages 255–265, September 2008. (Acceptance Rate: 36.7%).

MAGAZINE ARTICLES

1. Anupam Das, Martin Degeling, Norman Sadeh, and Daniel Smullen. Personalized privacy assistants for the internet of things: Providing users with notice and choice. *IEEE Pervasive Computing*, 17(3):35–46, July 2018.

WORKSHOP PUBLICATIONS

1. Kevin Childs, Daniel Nolting, and Anupam Das. Heat marks the spot: De-anonymizing user's geographical data on the strava heatmap. In *7th Workshop on Technology and Consumer Protection (ConPro)*, 2023.

2. Anupam Das, Martin Degeling, Xiaoyou Wang, Junjue Wang, Norman Sadeh, and Mahadev Satyanarayanan. Assisting users in a world full of cameras: A privacy-aware infrastructure for computer vision applications. In *Proceedings of the 30th IEEE Computer Vision and Pattern Recognition Workshops (CVPRW)*, pages 1387–1396, July 2017.

3. Primal Pappachan, Martin Degeling, Roberto Yus, Anupam Das, Sruti Bhagavatula, William Melicher, Pardis Emami Naeini, Shikun Zhang, Lujo Bauer, Alfred Kobsa, Sharad Mehrotra, Norman Sadeh, and Nalini Venkatasubramanian. Towards privacy-aware smart buildings: Capturing, communicating, and enforcing privacy policies and preferences. In *Proceedings of the 37th IEEE International Conference on Distributed Computing Systems Workshops (ICDCSW)*, pages 193–198, June 2017.

4. Anupam Das, Cristian Lumezanu, Yueping Zhang, Vishal Singh, Guofei Jiang, and Curtis Yu. Transparent and flexible network management for big data processing in the cloud. In *Proceedings of the 5th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud)*, pages 1–6, June 2013.

POSTER ABSTRACTS

1. Aafaq Sabir and Anupam Das. Automated interaction with smart virtual assistants voice apps using large language models. In *the 32nd USENIX Security Symposium (USENIX Security 23)*, 2023. https://www.usenix.org/conference/usenixsecurity23/poster-session.

2. Abhinaya S. B., Aafaq Sabir, and Anupam Das. Virtual adventures, real challenges: Analyzing harassment controls in VR. In *the 32nd USENIX Security Symposium (USENIX Security 23)*, 2023. https://www.usenix.org/conference/usenixsecurity23/poster-session.

3. Yang Bai, Nakul Garg, Harshvardhan Takawale, Anupam Das, and Nirupam Roy. Natural voice interface for the next generation of smart spaces. In *Proceedings of the 24th International Workshop on Mobile Computing Systems and Applications (HotMobile)*, 2023. https://dl.acm.org/doi/abs/10.1145/3572864.3581587.

4. Dilawer Ahmed, Benjamin Zhang, and Anupam Das. Fingerprinting iot devices in open-world. In *the 29th Annual Network and Distributed System Security Symposium (NDSS)*, 2022. https://www.ndss-symposium.org/wp-content/uploads/NDSS2022Poster_paper_33.pdf.

5. Christopher Lentzsch, Sheel Jayesh Shah, Benjamin Andow, Martin Degeling, Anupam Das, and William Enck. Hey alexa, is this skill safe?: Taking a closer look at the alexa skill ecosystem. In *the 17th Symposium on Usable Privacy and Security (SOUPS)*, 2021. https://www.usenix.org/system/files/soups21-abstract-poster13-lentzsch.pdf.

6. Shaohu Zhang and Anupam Das. A 2-FA for home voice assistants using inaudible acoustic signal. In *the 27th Annual International Conference on Mobile Computing and Networking (MobiCom)*, 2021. https://dl.acm.org/doi/10.1145/3447993.3482863.

7. Ahsan Zafar and Anupam Das. Evolution of adblock plus's acceptable ads. In *the 41st IEEE Symposium on Security and Privacy (SP)*, May 2020. https://www.ieee-security.org/TC/SP2020/poster-abstracts/hotcrp_sp20posters-final13.pdf.

8. Norman Sadeh, Martin Degeling, Anupam Das, Aerin Shikun Zhang, Alessandro Acquisti, Lujo Bauer, Lorrie Cranor, Anupam Datta, and Daniel Smullen. A privacy assistant for the Internet of Things. In *the 13th USENIX Symposium on Usable Privacy and Security (SOUPS)*, July 2017. https://www.usenix.org/sites/default/files/soups17_poster_sadeh.pdf.

9. Anupam Das and Nikita Borisov. Fingerprinting smartphones through speakers. In *the 35th IEEE Symposium on Security and Privacy (SP)*, May 2014. http://www.ieee-security.org/TC/SP2014/posters/DASAN.pdf.

10. Giang T. K. Nguyen, Xun Gong, Anupam Das, and Nikita Borisov. PnP: Improving web browsing performance over tor using web resource prefetch-and-push. In *the 20th ACM Conference on Computer and Communications Security (CCS)*, November 2013. http://hatswitch.org/~nikita/papers/pnp-poster-ccs13.pdf.

TECHNICAL REPORTS

1. Abhinaya S. B., Aafaq Sabir, and Anupam Das. Enabling developers, protecting users: Investigating harassment and safety in VR. *CoRR*, abs/2403.05499, 2024. https://doi.org/10.48550/arXiv.2403.05499.

2. Jiaxun Cao, Abhinaya S. B., Anupam Das, and Pardis Emami Naeini. Understanding parents' perceptions and practices toward children's security and privacy in virtual reality. *CoRR*, abs/2403.06172, 2024. https://doi.org/10.48550/arXiv.2403.06172.

3. Md. Adnan Arefeen, Zhouyu Li, Md. Yusuf Sarwar Uddin, and Anupam Das. Metamorphosis: Task-oriented privacy cognizant feature generation for multi-task learning. *CoRR*, abs/2305.07815, 2023. https://doi.org/10.48550/arXiv.2305.07815.

4. Anupam Das, Nikita Borisov, Edward Chou, and Muhammad Haris Mughees. Smartphone fingerprinting via motion sensors: Analyzing feasibility at large-scale and studying real usage patterns. *CoRR*, abs/1605.08763, May 2016. http://arxiv.org/abs/1605.08763.

5. Anupam Das, Nikita Borisov, and Matthew Caesar. Exploring ways to mitigate sensor-based smartphone fingerprinting. *CoRR*, abs/1503.01874, March 2015. http://arxiv.org/abs/1503.01874.

6. Anupam Das, Nikita Borisov, and Matthew Caesar. Fingerprinting smart devices through embedded acoustic components. *CoRR*, abs/1403.3366, March 2014. http://arxiv.org/abs/1403.3366.

7. Joshua Juen, Anupam Das, Aaron Johnson, Nikita Borisov, and Matthew Caesar. Defending tor from network adversaries: A case study of network path prediction. *CoRR*, abs/1410.1823, 2014. http://arxiv.org/abs/1410.1823.

8. Anupam Das and Nikita Borisov. Securing tor tunnels under the selective-DoS attack. *CoRR*, abs/1107.3863, July 2011. http://arxiv.org/abs/1107.3863.

THESES

1. Anupam Das. *Understanding and Mitigating the Privacy Risks of Smartphone Sensor Fingerprinting*. Ph.D. thesis, Department of Computer Science, University of Illinois at Urbana-Champaign, 2016.

2. Anupam Das. Feedback based dynamic trust model for secured communication in multi-agent systems. M.Sc. thesis, Department of Computer Science and Engineering, Bangladesh University of Engineering and Technology, 2010.

3. Anupam Das. Evolving neural networks using evolutionary algorithm. B.Sc. thesis, Department of Computer Science and Engineering, Bangladesh University of Engineering and Technology, 2008.

PUBLIC SPEAKING

INVITED TALKS

1. Security and Privacy Analysis of Emerging Voice Interfaces: The Triangle Area Privacy and Security (TAPS) Day, November 4, 2022
2. When Machine Learning Meets Privacy, Special Session on When AI Meets Security and Privacy: 8th International Conference on Networking, Systems and Security (NSysS), December 22, 2021
3. Taking a Closer Look at the Alexa Skill Ecosystem, The Human Element in Autonomous Cyber Security: A CAE-R Workshop, (virtually hosted by Florida Tech), September 15, 2021.
4. Every Move You Make: Tracking Smartphone Users through Motion Sensors (**keynote**), ACM IH&MMSec, Philadelphia, PA, June, 2017.
5. Tracking mobile web users through motion sensors: Attacks and defenses, Carnegie Mellon University (CMU), Pittsburgh, PA, October, 2016.
6. Tracking mobile web users through motion sensors: Attacks and defenses, University of California at Berkeley, Berkeley, CA, February, 2016.
7. Tracking mobile web users through motion sensors: Attacks and defenses, IBM T.J. Watson Research Center, Ossining, NY, February, 2016.
8. Tracking mobile web users through motion sensors: Attacks and defenses, Cornell University, Ithaca, NY, January, 2016.
9. Tracking mobile web users through motion sensors: Attacks and defenses, University of Illinois at Urbana-Champaign (UIUC), Urbana, IL, October, 2015.

PRESENTATATIONS

1. Hey Alexa, is this Skill Safe?: Taking a Closer Look at the Alexa Skill Ecosystem. *LASER Workshop held in conjunction with the Network and Distributed Systems Security (NDSS) Symposium*, virtual, February, 2021.
2. Assisting users in a world full of cameras: A privacy-aware infrastructure for computer vision applications. *1st International Workshop on The Bright and Dark Sides of Computer Vision: Challenges and Opportunities for Privacy and Security (CV-COPS)*, Honolulu, HI, July, 2017.
3. Tracking mobile web users through motion sensors: Attacks and defenses. *23rd Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February, 2016.
4. Do you hear what I hear? Fingerprinting smart devices through embedded acoustic component. *21st ACM Conference on Computer and Communications Security (CCS)*, Scottsdale, AZ, November, 2014.
5. Re^3: Relay reliability reputation for anonymity systems. *9th ACM Symposium on Information, Computer and Communications Security(ASIACCS)*, Kyoto, Japan, June, 2014.
6. Analyzing an adaptive reputation metric for anonymity systems. *1st ACM Symposium and Bootcamp on the Science of Security (HotSoS)*, Raleigh, NC, April, 2014.
7. The tangled web of password reuse. *21st Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February, 2014.
8. Securing anonymous communication channels under the selective-DoS attack. *17th Financial Cryptography and Data Security (FC)*, Okinawa, Japan, April, 2013.
9. A novel feedback based fast adaptive trust model for P2P networks. *35th IEEE Conference on Local Computer Networks (LCN)*, Denver, CO, October, 2010.

TUTORIALS

1. An overview of usable privacy technologies, tools and findings coming out of recent research at Carnegie Mellon University, *13th USENIX Symposium on Usable Privacy and Security (SOUPS)*, Santa Clara, CA, USA, July 2017. Joint tutorial with Norman Sadeh and Martin Degeling.

PANELS

1. Federal Trade Commission's (FTC) annual PrivacyCon forum, July, 2021 (virtual).
2. NCSU Data Privacy Month Panel, February, 2021 (virtual).
3. Federal Trade Commission's (FTC) annual PrivacyCon forum, Washington D.C., June, 2019.