Priyanka Bose

Security Researcher,
SecLab, UCSB

Goleta, California 93117
USA
✉ *priyanka@cs.ucsb.edu*
@cinderella

Research Interests

My research interest is in the domain of systems and software security. Specifically, I focus on developing novel static and dynamic program analysis techniques to discover vulnerabilities in application software.

Education

2016–Present	**Ph.D.**, *University of California*, Santa Barbara, *GPA – 4.0/4.0.* Computer Security, advised by Giovanni Vigna & Christopher Kruegel
2016–2022	**MS**, *University of California*, Santa Barbara, *GPA – 4.0/4.0.* Computer Security, advised by Giovanni Vigna & Christopher Kruegel
2013–2015	**MS**, *Indian Institute of Technology*, Madras, *GPA – 9.0/10.0.* Computer Science & Engineering, advised by PanduRangan Chandrasekaran
2007–2011	**B.Tech.**, *Institute of Engineering & Management*, Kolkata, *GPA – 9.05/10.0.* Computer Science & Engineering

Professional Experience

2016–Present	**Graduate Student Researcher**, *University of California, Santa Barbara*, Santa Barbara.
2015–2016	**Post-Graduate Research Intern**, *School of Computing (SoC), National University of Singapore (NUS)*, Singapore.
2013–2015	**Teaching Assistant**, *Indian Institute of Technology (IIT)*, Madras.
2011–2013	**Systems Engineer**, *Infosys Limited*, Bhubaneswar.

Publications

[6] **P. Bose**, D. Das, Y. Chen, Y. Feng, C. Kruegel, and G. Vigna, "Sailfish: Vetting smart contract state-inconsistency bugs in seconds," in *IEEE Symposium on Security and Privacy (IEEE S&P)*, 2022.

[5] D. Das, **P. Bose**, A. Machiry, S. Mariani, Y. Shoshitaishvili, C. Kruegel, and G. Vigna, "Hybrid pruning: Towards precise pointer and taint analysis," in *Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*, 2022.

[4] D. Das, **P. Bose**, N. Ruaro, C. Kruegel, and G. Vigna, "Understanding security issues in the nft ecosystem," in *Conference on Computer and Communications Security (CCS)*, 2022.

[3] D. Meng, M. Guerriero, A. Machiry, H. Aghakhani, **P. Bose**, A. Continella, C. Kruegel, and G. Vigna, "Bran: Reduce vulnerability search space in large open source repositories by learning bug symptoms," in *ACM Asia Conference on Computer and Communications Security (ASIA CCS)*, 2021.

[2] **P. Bose**, V. T. Hoang, and S. Tessaro, "Revisiting aes-gcm-siv: Multi-user security, faster key derivation, and better bounds," in *Advances in Cryptology (EUROCRYPT)*, 2018.

[1] **P. Bose**, D. Das, and C. P. Rangan, "Constant size ring signature without random oracle," in *Australasian Conference on Information Security and Privacy (ACISP)*, 2015.

Professional Activities

- Reported six high-impact security vulnerabilities with financial consequences in OpenSea, Sorare, and Rarible marketplaces (2021).
- Member of *Shellphish* `Capture-The-Flag` (CTF) team. Participated in DEFCON CTF Finals in the year 2019.
- Member of Women in Cybersecurity (WiCyS), UCSB Chapter.
- Guest speaker at Career Panel for Women in Cybersecurity (WiCyS), UCSB Chapter.

Honors and Awards

- Received scholarship to attend Black Hat USA 2019.
- Received scholarship to attend *Grace Hopper Celebration'18*.
- Selected for attending *RSA Security Scholar Program'18*.
- Entitled to *Presidential Graduate Fellowship* (PGF) at *National University of Singapore* (NUS).
- Received scholarship from *National University of Singapore (NUS)* to attend 5th *South Asia Workshop on Research Frontiers in Computing* , 2015 held at NUS, Singapore.
- Received scholarship for two years (2013 - 2015) from *Ministry of Human Resource and Development (MHRD)*, Government of India for higher studies at IIT, Madras.
- Received **National Merit Scholarship** from *Ministry of Human Resource and Development (MHRD)*, Government of India for 66th position in state in X^{th} standard board examination.

Scholastic Achievements

- Secured All-India Rank 657 among $2, 24, 160$ candidates in GATE 2013.
- Secured All-India Rank 1196 among $87, 163$ candidates in West Bengal Joint Entrance Examination 2007 (Engineering).
- Secured All-India Rank 372 among $27, 579$ candidates in West Bengal Joint Entrance Examination 2007 (Pharmacy).
- Stood 66th in state in X^{th} standard board examination.

Academic Service

Shadow PC	IEEE Symposium on Security and Privacy (IEEE S&P)	*2020*

Media Coverage

NFT Study [4]	**The Atlantic**, *Please Ignore My Last 577 Tweets*, (May 2022).
	Axetue, *OpenSea hack verified 3 security concerns. Here's what you need to know*, (Feb 2022).
	Hong Kong Security Response Team Coordinate Centre (HKCERT), *What You Know about the Cyber Security of NFT*, (Mar 2022).
	Medium, *NFT Security 101*, (Mar 2022).
	Sensors Tech Forum, *NFT Security and Risks: How Secure Are Your Digital Assets?*, (Feb 2022).
	Merehead, *How to make NFTs secure?*, (Dec 2021).
	CoinYuppie, *Do you know how to audit safe and reliable NFT projects?*, (Feb 2022).
Sailfish [6]	**TheHackerNews**, *SAILFISH System to Find State-Inconsistency Bugs in Smart Contracts*, (Jan 2022).
	IEMLabs, *SAILFISH System to Find State-Inconsistency Bugs in Smart Contracts*, (Jan 2022).
	CyberFishNews, *SAILFISH System to Find State-Inconsistency Bugs in Smart Contracts*, (Jan 2022).
	CyberSecurity.News, *SAILFISH System to Find State-Inconsistency Bugs in Smart Contracts*, (Jan 2022).