

## WORK EXPERIENCE

### Harbor Labs, Associate Research Scientist, Baltimore, MD, USA

Feb 2024 – Present

- Conducting comprehensive security assessments and penetration testing for 15+ medical device manufacturers, covering web and mobile applications, cloud infrastructure, MDM solutions, embedded systems, firmware, hardware, Windows-based software, and sensitive healthcare data.
- Collaborating with client and cross-functional teams to remediate vulnerabilities, strengthen security posture, and implement industry-best mitigation strategies across medical devices and supporting technologies.
- Preparing and supporting FDA cybersecurity compliance documentation (including eSTAR submissions) to ensure medical devices and associated data meet applicable regulatory and industry standards.

### SiriusXM, Security Intern, New York City, NY, USA

May 2023 – Aug 2023

- Worked with the Application Security Team to implement Developer Security Training for 1000+ engineers.
- Performed 30+ Security Risk Assessments and redesigned the evaluation process to make it 400% faster.
- Automated report notification system to improve Vulnerability Management for 25,000+ assets with Python.

## EDUCATION

### Johns Hopkins University, Baltimore, MD, USA

Aug 2022 – Dec 2023

- Degree: Master of Science in Security Informatics | GPA: 3.99/4 | TA: Security and Privacy in Computing (Fall 2023)
- Courses: Security and Privacy in Computing, Introduction to Cryptography, Cybersecurity Risk Management, Computer and Mobile Device Forensics, Network Security, Ethical Hacking, Mobile and Wireless Security

### Indian Institute of Technology (IIT) Goa, India

Aug 2018 – July 2022

- Degree: Bachelor of Technology in Computer Science and Engineering | GPA: 3.64/4
- Courses: Introduction to Information Security, Computer Networks, Computer Architecture, Operating Systems, Data Structures and Algorithms, Artificial Intelligence, Machine Learning, Software Systems Lab

## PROJECTS

### 5G Sentinel: Threat Modeling and DoS Attack Mitigation in ABot-Simulated Cellular Networks

Sep 2023 – Dec 2023

- Worked on Capstone Project under Dr. Ashutosh Dutta to explore the security aspects of a 5G cellular network, with the main aim of understanding 5G Network Core components, and 3GPP functions and procedures.
- Simulated a 5GCN environment using the ABot and Grafana framework, developed a robust threat model, and implemented a rudimentary defense mechanism against Denial of Service (DoS) attacks.

### Root the Ballot Box

Oct 2022 – Dec 2022

- Collaborated with a team to design a simulated electronic voting system, purposefully embedding known vulnerabilities to understand potential attack vectors and enhance the security framework.
- Identified and documented an external group's machine for vulnerabilities, both intentional and unintentional, applied ethical hacking techniques and best practices for ensuring electronic voting system integrity.

### SolSec Labs

Jan 2022 – June 2022

- Built web-based virtual training labs for Solidity developers to learn Smart Contracts security vulnerabilities.
- Developed and deployed the project using React/Node JS and Netlify/Heroku at <https://solseclabs.netlify.app/>

### LSB Image Steganography Tool

Oct 2020 – Dec 2020

- Implemented the Least-Significant Bit Steganography technique to hide messages inside RGB/RGBA images.
- Utilized prevalent Pillow and NumPy Libraries in Python to write the encoding and decoding functions.

## TECHNICAL SKILLS

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|---|---|
| • <b>Programming:</b> Python, Golang, C/C++, Bash   | • <b>Web/Cloud:</b> HTML, CSS, React, Node, SQL, MongoDB, Solidity, Git, Jenkins, Docker, AWS, Azure GCP, Oracle  |
| • <b>Security:</b> Kali, VAPT, OWASP Top 10, CTI, OSINT, MITRE ATT&CK, Cryptography, IAM, DevSecOps, NIST | • <b>Tools:</b> Wireshark, Nmap, Burp Suite, Ghidra, Splunk, Okta, SentinelOne, Dependency Track, SonarQube, Nessus Scanner, SAST/DAST/SCA, SOC/SIEM/SOAR |
| • <b>Certifications:</b> CompTIA Security+, Google IT Support Specialization, CNSS                        | • <b>Operating Systems:</b> Linux, MacOS, Windows   |
| • <b>AI/ML:</b> OWASP Top 10 LLM & Gen AI, Adversarial ML, Data Privacy, Prompt Engineering               | • <b>Productivity:</b> ChatGPT, CoPilot, Gemini, Claude   |

## ACHIEVEMENTS

- Selected for the 2023B class of Google's CS Research Mentorship Program (CSRMP)
- Gold Medal for Best Outgoing Student (Overall) from Class of 2022 at IIT Goa
- Certificate of Appreciation for Poster Presentation at ACM India Winter School on CyberSecurity 2020
- Winner of HackQuest 2020 Solo Jeopardy-style CTF, GirlScript Foundation, India

## PUBLICATIONS

- Devang Jain and Sharad Sinha, "SolSec Labs: Virtual Labs for Learning Smart Contracts Security", IEEE Potentials (Published, Nov 2022) – <https://ieeexplore.ieee.org/document/9935793>