

HARSH SAGLANI

hsaglanius@gmail.com

<https://www.linkedin.com/in/hsaglani>

<https://harshsaglani.live>

EDUCATION

University of Maryland , A James Clark School of Engineering Masters in Engineering in Cyber Security (Cybersecurity) (GPA: 4.0)	College Park, USA Aug 2021 - May 2023
Savitribai Phule Pune University , Pune Institute of Computer Technology (PICT) Bachelor of Engineering in Computer Science Engineering (GPA: 9.46/10)	Pune, India Aug 2017 - Jun 2021

WORK EXPERIENCE

Praetorian Security Engineer II	Austin, TX, USA Jun 2023 - Present
<ul style="list-style-type: none">Executed in-depth internal and external network penetration tests, leveraging tools such as Burp Suite, Nessus, and Nmap to identify system vulnerabilities and weaknesses. Conducted product security vulnerability testing, meticulously assessing potential risks and providing strategic recommendations to enhance the overall security postureLed the creation of detailed vulnerability assessment reports, offering clear insights into identified risks and potential impacts and providing clients with practical mitigation recommendationsMaintained proactive communication with clients through daily status updates of ongoing penetration testing activities.Successfully executed a social engineering attack against a multinational company, showcasing expertise in identifying and addressing human-centric security vulnerabilities in addition to technical aspectsCollaborated seamlessly within a team environment to execute thorough web application penetration testing, delivering insightful findings and actionable recommendations for securing critical client applications	
University of Maryland Dining Services Graduate Assistant - Web Security	College Park, MD, USA Jan 2022 - May 2023
<ul style="list-style-type: none">Oversaw the Information Security and Privacy related functions of the dining services websiteManaged security updates and planned vulnerability management strategies for the websiteCreated and maintained a new centralized web platform for all catering service providers in UMDTransformed the existing customer-facing nutrition website into a better-optimized, intuitive, and user-friendly website	
R2i2 Technologies Intern – Web Developer	Delhi, India May 2021 – Jul 2021
<ul style="list-style-type: none">Enhanced usability of an internal website that creates and manages projects, thereby increasing the team's productivityStrategized and designed an algorithm that solved the MTSP Problem using Google OR toolsDeveloped a website using Google OR tools for the "Optiplan" project to solve the MTSP problemImplemented new protection mechanisms and security controls into the current website	
Globular Tech Services Intern – PHP Developer	Amravati, India May 2017 – May 2017
<ul style="list-style-type: none">Developed an advanced, dynamic website for "Zheptours" - a tour and travel companyEnhanced the security architecture of the website by prioritizing the implementation of secure coding practicesMinimized vulnerabilities and attack vectors by auditing the website codebase and implementing secure code alternatives	

ACADEMIC EXPERIENCE

Independent Projects , Information Assurance	Jan 2023 - May 2023
<ul style="list-style-type: none">Proposed a security solution to address and improve the security of an educational institution as a security consultantContrasted proposed and current security measures to provide an in-depth view of the improved security architectureDocumented the cost estimations of implementing the proposed security measures in a detailed report	
Independent Projects , Cloud Security with Amazon AWS & Microsoft Azure	Sept 2022 - Dec 2022
<ul style="list-style-type: none">Securely re-architected and migrated on-prem architecture to AWS cloud and reported the steps to replicate the sameDocumented and presented a report on a cloud migration plan to securely re-architect & move existing applications to AWSSecurely federated logins to AWS Console using SAML 2.0 single sign-on with federated Active Directory in Azure	
Independent Projects , Digital Forensics & Incident Response	Sept 2022 - Dec 2022
<ul style="list-style-type: none">Used Autopsy to analyze a compromised Windows XP VM to determine the extent of information leakageExamined a memory dump using Volatility in SIFT VM to Identify and extract Malware from the memory dumpPerformed file carving to analyze an obscure disk image using the security tool foremost	
Independent Projects , Reverse Engineering	Sept 2022 - Dec 2022
<ul style="list-style-type: none">Reverse-engineered and Analyzed more than 20 Windows & Linux binaries using Remnux VM, GDB, IDA, and Ghidra tools	

- Presented a 10-minute talk on Malware Analysis of the “I love you” worm using reversing techniques
- Exploited stack-based buffer overflows, heap overflows, and format string memory corruption vulnerabilities

Independent Projects, Penetration Testing - Academic Course

Aug 2021 - Dec 2021

- Performed security testing on various VMs to find flags and wrote an executive summary & technical report on the same
- Applied social engineering strategies to extract passwords from our professor for the final penetration testing engagement
- Performed vulnerability scanning on VMs to find & exploit vulnerabilities with high CVSS scores using Nessus and other tools

Independent Projects, Network Security - Academic Course

Aug 2021 - Dec 2021

- Presented a 10-minute talk on how firewalls are an essential part of securing a company’s network infrastructure
- Implemented various cryptographic algorithms to understand how they secure various TCP/IP protocols

Secure Restaurant Ordering System, Intro to secure coding for Software Engineering,

Aug 2021 – Dec 2021

- Designed and Implemented a secure restaurant ordering system using secure coding practices & secure SDLC in PHP
- Performed threat modeling, code reviews, reported vulnerabilities, weaknesses and suggested mitigations
- Created expert technical documentation such as Software Requirements and Software Design Documents for the project

Segmented Federated Learning for Adaptive Intrusion Detection System ([Research Paper](#))

Jan 2021 – Jul 2021

- Programmed a Segmented-Federated Learning based system for network intrusion detection
- Solved the problem of data privacy when training machine learning models dealing with sensitive data

Network Intrusion Detection System (NIDS) using Federated Learning

Jan 2021 – Jun 2021

- Detected Cyber-attacks by implementing a NIDS using Google’s Federated Machine Learning technology
- Solved the lack of availability of data (due to privacy) for Machine Learning (ML) algorithms that detect cyber attacks
- Implemented a NIDS system more efficiently as compared to traditional ML-based NIDS using Python
- Created a continuously evolving ML model as an improvement over traditional Machine Learning systems

Face Recognition-based Attendance System, Academic Project

Jul 2019 – Dec 2019

- Developed a native Android application for student attendance, which saved the department manual labor 6 hours/month
- Implemented Face Detection and Face Recognition to mark attendance using Python’s Face Recognition library
- Automated and eased the attendance process as well as reduced the risks of ‘attendance by proxy.’

Safana - Employee Management and Project Management System, Hackathon

Sept 2019

- Developed a native Android application with a Firebase backend to help project managers add and remove employees, tasks, and projects and increased managers’ productivity by 25%

Fake News Detection System, Hackathon

Jan 2019

- Created a web application that took either an X (Twitter) tweet or a normal text containing a news claim, researched relevant news articles, and performed sentiment analysis using Convolutional Neural Network and Logistic Regression

SKILL SETS

- **Operating Systems** - Kali Linux, Microsoft Windows, Apple macOS
- **Programming** - Python, Core Java, C / C++, Android, Bash, Powershell, Assembly
- **Web & Database** - HTML, CSS, Javascript, JQuery, Core PHP, WordPress, Drupal, MySQL, MongoDB, Firebase
- **Tools** - Nmap, Wireshark, Metasploit, Nessus, Snort, Tcpdump, Burp Suite, Nikto, Weevely, Hydra, Hashcat, John, Wpscan, Sqlmap, Responder, GNU Debugger (GDB), Android Studio, Google Suite, VMWare, Autopsy, Ghidra, Ida pro, foremost, AWS Console, Splunk SIEM
- **Frameworks** - NIST, MITRE ATT&CK, PCI-DSS, GDPR, HIPAA, ISO 2700x, SOX, SOC 2, CCPA, FERPA, Owasp Top 10
- **Certifications** - CompTIA Pentest+, AWS SAA, Splunk Fundamentals Part 1, CEH (Expected Jan 24), OSCP (Expected May 24)

RELEVANT EXTRACURRICULAR ACTIVITIES

Speaker, Bitcamp 2023, “Introduction to Cryptography”

April 2023

- Taught an Introductory workshop on Cryptography aimed at high school and college students
- Elucidated topics like Symmetric and asymmetric Cryptography, Encryption, Decryption, Hash Functions, Digital Signatures, Diffie Hellman Key Exchange, Substitution Ciphers, and DES using an example-based approach with practical use cases.

Event Head, Capture the Flag, "Lakshya" CTF 2020 – IEEE Student Chapter at PICT

2019-2020

- Designed and pioneered an intuitive website for the event, which received 3000+ concurrent visitors
- Organized the event and managed a team of 20+ members
- Contributed 10+ problem statements in steganography, digital forensics, cryptography, penetration testing, and encryption

Co-Founder, Cyber Security Student Cell, PICT

2021

- Planned, strategized, and managed various CTF events, seminars, workshops, and meetings in PICT
- Managed a team of 50+ students by organizing their tasks and defining their roles and responsibilities

Capture the Flag participant

Since 2015

- **Hack The Box Rank** - Hacker, **Try Hack Me** - Top 5% of users (Globally), **NahamCon CTF 2022** - Placed in the top 12.5%