Mariam Varkey

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Objective

Postgraduate looking forward to utilizing the knowledge gained during master's program, research, and multiple courses to protect and secure companies and their assets. Highly motivated and detail-oriented individual seeking to develop a professional career in cyber security. Have won conference awards for research in cyber security.

Actively working towards the GIAC Enterprise Vulnerability Assessor (GEVA) and OSCP certifications.

Education

Abertay University | Dundee, UK   *2021 - 2022*
Master of Science in Ethical Hacking and Cybersecurity
Network and Web Application Penetration Testing, Engineering Resilient Systems, Information Security

Vellore Institute of Technology | Vellore, Tamil Nadu   *2016 - 2020*
Bachelor of Technology in Computer Science and Engineering
Web Security, Blockchain and Cryptocurrency, Cybersecurity, Internet of Things

Skills

- Familiar with OWASP Top Ten, Kali Linux and Python for web application security testing.
- Hands-on experience with penetration testing tools such as Burp Suite (Community Edition), Metasploit and sqlmap.
- Utilize and analyze results from scanners such as OpenVAS, Acunetix, OWASP ZAP, Nmap and Tenable Nessus to perform a vulnerability assessment and management.
- Effectively write reports aimed at technical and non-technical personnel.
- Research existing security threats and provide recommendations to combat them.

Projects & Research

Educational Vulnerable Web Application (Ongoing dissertation)   *Jun 2022 - Present*
- Reviewed 15 existing vulnerable web applications built for cybersecurity education.
- Identified the gap in real vs. expected knowledge required to use these applications.
- Designing a new novice-friendly vulnerable application to help aspiring penetration testers learn 10 common web application vulnerabilities.

Automated Anomaly Detection tool for Industrial Control Systems (Publication Pending)   *Jun 2022*
- Used Interquartile Range and Finite State Automata to identify anomalies.
- Tested the tool with three varied ICS to improve resilience: Secure Water Treatment testbed, Water Distribution testbed and Gasoil Heating Loop.
- Achieved higher detection rate and better performance than conventional anomaly detection techniques.
- Presented at the 5th IEEE Conference on Dependable and Secure Computing (SICSA Event), where it won **3rd place** in the Poster Category. I also won the **'Outstanding Woman in Cyber'** award.

Web Application Penetration test   *Apr 2022*
- Utilized the methodology in the OWASP Web Security Testing Guide.
- Produced a comprehensive report to detail the procedure, findings, and suggested improvements.

White Box Penetration Test of a Network   *Jan 2022*
- Executed steps of a network penetration testing methodology.
- Outlined the findings, evaluations, potential consequences, and recommendations in a report.
- Constructed the security report aimed at the network security administrator of a company.

Security Attacks in S-WBANs on IoT-based Healthcare Applications   *Nov 2019*
- Reviewed 40 existing Smart Wireless Body Area Networks (S-WBANs) and assessed their vulnerabilities.
- Identified flaws in current methods of remote computer-assisted rehabilitation and their impact if compromised within IoT-based systems.
- Proposed novel blockchain-based S-WBANs to address some of the vulnerabilities of the existing networks pertaining to data privacy and security.
- Published in a Scopus-indexed journal ([IJITEE](#)).

Work Experience

Editor & Book Reviewer | [The Rising Tilde](#) | Remote   *Feb 2021 - Present*
- Critiqued 27 books of various genres and published reviews and blog posts to drive engagement and book sales.
- Pitched ideas to the review team triweekly and coordinated with book authors to ensure regular posts targeted towards a suitable demographic.
- Liaised nine authors online and in-stores to find additional leads and take author interviews.
- Cultivated a social following of 800+ among platforms such as Instagram and Goodreads.
- Customized the WordPress website with CSS, PHP, and custom plug-ins to ensure a graphically consistent and smooth user experience.

Ethical Hacking Intern | Ernst & Young | Bengaluru, Karnataka   *May - June 2018*
- Learned ethical hacking basics with the cybersecurity team.
- Worked on endpoint security of client systems.

Certifications

Ethical Hacking (Internshala)
Information gathering, Web VAPT, OWASP, SQL injections, Advanced web application attacks, client-side attacks, identifying security misconfigurations, exploiting outdated web applications, automating VAPT, secure code development, documenting & reporting vulnerabilities.

MTA Security Fundamentals (Microsoft)
Security layers, Authentication, authorization & accounting, Security policies, Network security, Protecting Server & Client.

Extra-curricular
- Virtual Moderator for the SEC460 course during the SANS Cyber Defense India 2022 Event.
- Member of the Electronic Frontier Foundation that focuses on digital privacy, free speech, and innovation.
- 2022 SheLeadsTech Ambassador for ISACA in the UK.
- Participant of Core NetWars Tournament 8 - SANS Asia Pacific Regional July 2022.