Navaneeth Sivakumar

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Driven cyber security professional with a strong background in computer science and experience in penetration testing, vulnerability assessment and software engineering. Eager to apply my technical expertise and passion for security to protect critical infrastructure and strengthen defences for stakeholders.

Technical Skills

o **Core Knowledge:** Web and Network Security, Cyber Security Best Practices, Security GRC.

o **Programming:** Python, Bash Scripting, Java, C.

o **Version Control & Tools:** Git, Splunk, Kali Linux and associated tools.

Industry Experience

o *CREST at The University of Adelaide*

Software Engineer *Jan '24 - Present*
- Engineered a mutation testing approach for Ansible modules, identifying and reporting three new bugs to the community.
- Designed a self-evaluation framework for large language models (LLMs), integrating automated prompt optimisation techniques to enhance the quality of LLM-generated test cases.
- Implemented an open-source tool architecture to facilitate the secure management, distribution and storage of software supply chain metadata.

Research Assistant *Oct '22 - Jan '23, July '23 - Jan '24*
- Built a testing framework to evaluate LLMs using metamorphic testing techniques, significantly contributing to a research project that resulted in a publication at ICST 2024.
- Led projects on testing the applicability of LLMs to enhance penetration testing workflows.
- Developed a Python application integrating a Neo4j knowledge base to automate the execution of offensive security tools, streamlining the penetration testing process and increasing operational efficiency.

o **Teaching Assistant** *The University of Adelaide, Jan '23 - Dec '23*
- Delivered Secure Software Engineering and Cyber Security Fundamentals courses to 500+ students, ensuring high engagement and effective learning outcomes through tutorials and practical sessions.
- Guided learning for students by addressing knowledge gaps, responding to inquiries, and providing detailed feedback on coursework, facilitating improved academic performance.
- Recommended course enhancements and updated study materials to align with current industry standards, maintaining the relevance and effectiveness of course content.

o **Junior Penetration Tester** *Wattlecorp Cybersecurity Labs LLP, Jan '20 - July '20*
- Strengthened cyber security expertise and Linux command-line proficiency by independently developing skills in penetration testing, vulnerability assessment and reporting findings across web applications and network environments using Kali Linux and associated tools.
- Mentored and collaborated with a team of 10 interns and content creators, guiding their contributions to blog posts and social media content, resulting in increased engagement and knowledge sharing.
- Facilitated the growth of a national cyber security community by managing a cohort of 100+ students and professionals, fostering collaboration and knowledge exchange on industry trends and practices.

Education

○ **Master of Cyber Security**   **GPA: 6.5/7**
The University of Adelaide, Adelaide, South Australia   *2022*
Focus: Cyber Security Fundamentals, Computer Networks, Business Data & Cyber Security and Information Risks, Threats & Controls.

○ **Bachelor of Technology in Computer Science and Engineering**   **GPA: 8.36/10**
Amrita Vishwa Vidyapeetham, Kollam, Kerala, India   *2020*
Focus: Object Oriented Programming, Data Structures and Algorithms, Design and Analysis of Algorithms, Operating Systems, Database Management Systems, Software Engineering, Cryptography and Software Project Management.

Accomplishments

○ Achieved the eLearnSecurity Junior Penetration Tester (eJPT) certification, demonstrating proficiency in fundamental web and network penetration testing.

○ Accomplished "The Definitive GRC Analyst" training by Dr Gerald Auger to build skills in technical auditing, risk analysis and management, and developing organisational policies and procedures.

Projects

○ **Information Risk Management Framework (IRMF)** *July '21 - Nov '21*
Led a team of six to develop a custom information risk management framework for a non-profit in Adelaide, South Australia, inspired by popular security frameworks such as NIST CSF, SACSF and ASD Essential 8. Applied methods to assess risk tolerance, identify information assets, analyse vulnerabilities and threats, document and evaluate risks, and propose mitigation strategies.

○ **A deep-learning approach to find respiratory syndromes in infants using thermal imaging**
June '19 - Feb '20
Collaboratively led a team of four to train a deep learning model that determines the respiratory rate from a thermal video sample of an infant and classifies it into one of four disease classes to predict the possibility of any respiratory syndromes. Wrote a paper that was published at ICCSP 2020.

Volunteer Experience

○ **Technical Trainer** *Kerala, India - June '18*
Conducted a social service project called Empowering Youth for Digital India as a part of the Student Social Responsibility (SSR) program, through which we provided fundamental technical education to the students of Fort High School, Trivandrum, Kerala, India.

○ **Web Development Trainer** *Kerala, India - Oct '17*
Worked with senior students to conduct a workshop on web development using HTML/CSS and the Django framework.

Languages & Other Skills

○ Can converse in English, Malayalam, Tamil and Hindi.

○ Proficient in content writing and blog management, maintaining https://navisk13.github.io since 2017.

○ Strong presentation and documentation skills that ensure clear communication and efficient dissemination.

○ Adept at driving collaboration and effective task planning within diverse organisational teams.