Rachel Kerr

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Profile

Graduate with experience using security software; holding a Bachelors in Computer science; with great communication skills, a proactive team player and holding a CCNA1 credential; actively seeking a job in cybersecurity to develop new skills and determined to progress.

Skills

- Technologies: Microsoft Office Suite, Jira, Git, Trac, SVN, Python, Java, C++, Golang, HTML5, CSS, JavaScript, PHP, SQL, Cisco Packet Tracer, Unix, Nessus, Metasploit, Snort, Splunk, Kubernetes, Docker
- Teamwork and Communication
- Problem solving & critical thinking
- Methodical & well organised
- Adaptable to changing work demands
- Creative & innovative

Work Experience

Firemind, Maidstone, Kent — Work Shadowing - JULY 2019

Achievements:

- Learning new skills/techniques from experienced developers which has expanded my knowledge/skills base in front-end, web development & code optimisation.
- Given responsibility for working on testing website functionality which directly contributed towards Premier League project that the company was working on.
- Positive feedback from senior developer for being an enthusiastic & quick learner.

Responsibilities:

- Shadowed a front-end developer working on datasets.
- Worked with another intern on website development with HTML, CSS, and JavaScript, making a registration form, animated cards, a loader, and an animation using keyframes.

Projects worked on:

COVID Officer - CSEE Society – 2022

Achievements:

- Organized a Hackathon for society members to create a game.

Responsibilities:

- Ensured members follow guidelines at events.
- Conducted risk assessments and developed operating procedures to ensure member safety.

Final Capstone Project – Secure APIs for Web Services - 2023

Achievements:

- Deployed Prometheus onto Kubernetes.
- Identified a vulnerability in the Prometheus API.
- Successfully manipulated HTTP requests sent to the API by simulating a man-in-the-middle attack using Docker.
- Successfully alerts user of suspicious activity with alarm application.

Responsibilities:

- Conducted research on microservice applications and the current climate of API security.
- Reverse-engineered source code to identify an area to exploit.
- Developing a man-in-the-middle attack using Golang to show exploitation.

- Developing an alarm application and deploying this on Docker to monitor data in real-time so it enhances security measures and responds to security threats promptly.

Cyber Security Development

Achievements:
- Expanded knowledge in various areas of cyber security such as web exploitation, cryptography, and forensics by working through various capture the flag challenges.
- Completed security specialized modules at university, focusing on security fundamentals, encryption, and network architecture.
- Established skills in configuring firewalls, monitoring with SIEM software such as Splunk, and vulnerability scanning with Nessus and Metasploit.
- Completed the Immersive Labs Defensive SecOps program over the summer, consolidating existing knowledge and introducing new concepts such as the MITRE attack framework and the cyber kill chain.

Responsibilities:
- Actively participated in the Cyber Discovery programme during sixth form, which sparked initial interest in cyber security and tested computational thinking.
- Engaged in university security specialized modules to deepen understanding of security fundamentals.
- Practiced configuring firewalls, monitoring with SIEM software, and conducting vulnerability scanning to develop practical skills.
- Invested time and effort in working through challenges to expand knowledge in various areas of cyber security.

Education/Training

2024 – CompTIA Security+ (In Progress)

2023 – BSc Computer Science (1st Class Hons) – University of Essex, Colchester, Essex
First year modules: Team Project, Programming [Python], Object-Oriented Programming [Java], Mathematics, Databases, Networks, Web Development and Digital Systems.

Second year modules: Team Project, Software Engineering, Application Programming, Data Structures and Algorithms, Artificial Intelligence, Computer Security, C++ Programming and Operating Systems.

Third year modules: Final Capstone Project, Advanced Programming [Java], Natural Language Engineering, Computer Vision, Large Scale Software Systems & Extreme Programming and Network Security.

2022 - Cisco Certified Network Associate 1 (91%)
I have completed this networking course and achieved 91% in the final exam. This has introduced me to using packet tracer and has taught me how to configure networks, routers, and switches.

2020 – A Levels – Invicta Grammar School, Maidstone, Kent
Computer Science - B, Product Design - B, Mathematics - D

2018 – GCSE – St Simon Stock Catholic School, Maidstone, Kent
Ten GCSE'S Grades 8-5 (including Maths and English)

Interests

Football & Bouldering
I have played for my university's second team in woman's football which has improved my teamwork and communication skills as well as keeping me fit and healthy. I also go to a bouldering gym on a regular basis to build physical strength and develop a positive mindset for my mental health. Additionally, bouldering has improved my problem-solving skills as it is required when analysing and reading a route to climb as efficiently as possible to reach the top.

References available on request