

Alexander Craig Paterson

apaterson012@gmail.com | +44 7427 251925 | Portfolio

Personal Statement

Passionate cybersecurity student with a strong interest in offensive security, penetration testing, and ethical hacking. Currently completing a dissertation on detecting malware via behavioral analysis using machine learning. Hands-on experience with red team tools and techniques, including labs in Parrot OS and Hack The Box CTFs. Comfortable with scripting, network exploitation, and secure software development. Eager to contribute to a professional red team and continue learning in real-world offensive security environments.

Education

BSc Computer Science (Cyber Security)

Heriot-Watt University, Edinburgh (Expected Graduation: 2025)

Key Modules: Operating Systems, Language Processors, Penetration Testing, Network Security, Malware Analysis, Cryptography, Formal Methods

Dissertation: Detecting Malware via Behavioural Analysis Using Machine Learning (Supervisor: Idris Ibrahim)

Experience

Customer Assistant, Aldi, Edinburgh — 2019–2023

- 4 years in a fast-paced, high-pressure retail environment
- Demonstrated strong time management, reliability, and interpersonal skills
- Entrusted with shift leadership, cash handling, and team responsibility

Projects & Labs

Care Home Management System: Built a role-based full-stack system using React.js, Node.js, and MariaDB. Integrated resident, employee, and admin functionalities, focusing on secure authentication and access control.

Offensive Security Labs (Parrot OS):

- **Network Mapping:** Nmap & Wireshark for host discovery and traffic analysis
- **Password Cracking:** Hydra & John the Ripper
- **Exploitation:** Metasploit on lab environments
- **Post-Exploitation:** Impacket suite for lateral movement and credential dumping

Vulnerability Reports

Wrote 4 professional red-team-style reports with CVSS scoring, detailed exploitation methods, and remediation guidance.

Capture the Flag (CTF)

Active Hack The Box user: Completed multiple Starting Point and Easy boxes. Developing personal labs for persistent access, privilege escalation, and exfiltration.

Skills

Languages: JavaScript, Java, Python, C++, Bash, SQL

Tools: Burp Suite, Nmap, Hydra, Wireshark, Gobuster, Metasploit, sqlmap, John the Ripper, Impacket

Operating Systems: Parrot OS, Kali Linux, Windows, Ubuntu

Security Knowledge: OWASP Top 10, MITRE ATT&CK, CVSS, CVE research

Version Control: Git, GitHub

Soft Skills: Problem-solving, adaptability, team collaboration, initiative

Certifications & Training

- TryHackMe Offensive Pathway (in progress)
- Hack The Box: Starting Point & Easy Lab Completions
- CompTIA Security+ (Planned)
- eLearnSecurity Junior Penetration Tester (eJPT) (Planned)

Interests

Cybersecurity research • Capture the Flag (CTF) events • Custom penetration testing labs • PC hardware & systems building • Rock climbing & bouldering