ÖMER CAN VURAL

Offensive Security Engineer

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Tech Stack : Red Team Operations • Vulnerability Management • Penetration Testing • C/C++ • Python • Security Tooling • Virtualization

ABOUT ME

Offensive Security Engineer with hands-on experience in penetration testing, vulnerability management, Active Directory and systems-level development. Led enterprise vulnerability management covering 8,000+ hosts and achieved a 90% reduction in critical findings. Strong advocate for thorough documentation.

EDUCATION

Erciyes University 09/2017 – 09/2023
Computer Engineering B.S.
Thesis : 8-Bit CPU and 8-Bit GPU Design

ASO Technical College 09/2012 – 06/2016
Mechatronics

CERTIFICATIONS

- Offsec / OSCP – IN PROGRESS
- BTK Akademi – Uygulamalı Sızma Testi — 05/2023
- Cisco / CyberOps Associate – 04/2023
- Cisco / CCNAv7 – 01/2023
- Cisco / Introduction to Cyber Security – 12/2022
- Cisco / NDG Linux Unhatched – 12/2022

CORE SKILLS

Offensive Security & Red Teaming – **Advanced**
- Active Directory Attacks
- Web and Mobile App Penetration Testing
- Privilege Escalation

Vulnerability Assessment – **Advanced**
- Vulnerability Research
- Vulnerability Scan (Nexpose/Nessus, Manual Verification)
- Exploit Development
- CIS Benchmarking

Software Development – **Advanced**
- C / C++ (CMake, gcc/g++, MSVC)
- Cross-Platform Development
- Embedded Software Development
- Qt, OpenSSL

Tooling & Automation – **Advanced**
- Python (Testing, Automation, Scripting)
- Virtualization (VBox, QEMU, Vmware)
- Bash / PowerShell Scripting

WORK EXPERIENCE

KKB – Kredi Kayıt Bürosu **İstanbul – Türkiye**
Vulnerability Assessment and Penetration Tester **08/2023 – 05/2024**
- Designed and implemented a Python/Bash-based vulnerability management tool that autonomously prioritize findings and report relevant departments. Covering 8,000+ hosts and produced 300+ prioritized findings for remediation, reduced vulnerabilities by 90%.
- Implemented PowerShell automation to apply CIS Benchmark configurations across 4,000+ Windows servers and endpoints.
- Performed 8+ web app and 3+ mobile app penetration tests
- Supported red team operations by conducting Active Directory hardening, lateral movement validation and APT simulations.

Baykar Technology **İstanbul – Türkiye**
Engineering Intern – Cybersecurity **07/2023 – 08/2023**
- Developed plug-ins for an internal cryptographic tools and security tools for tooling suite and with C/C++.
- Conducted research on vulnerability impacts on enterprise services, documented vulnerability cases and recommended mitigations.

Z-Sistem Aviation and Informatics Industry **Ankara – Türkiye**
Engineering Intern – Embedded Systems **10/2022 – 12/2022**
- Contributed to PX4 autopilot modules (C/C++, CMake) and developed a custom mission system and emergency handling and validated related modules via Gazebo simulation.
- Implemented MAVLink modules and QGroundControl integrations to ensure reliable telemetry for mission profiles.

PROJECTS

Veraser – Secure File Delete Plug-in for VeraCrypt & Independent CLI Tool **08/2025**

Implemented a cross-platform CLI utility and a VeraCrypt plug-in to provide secure file overwrite and deletion options. Focused on secure wiping algorithms and integration tests, ensuring data irrecoverability against common forensic tools.
(**C/C++, OpenSSL, VeraCrypt**)

HiddenRoute – Locally Running VPN Solution **06/2025**

Designed and built a VirtualBox-based VM tunnel that forwards host traffic through Tor with integrated DNS leak protection with adblock. The solution successfully isolated and anonymized host traffic, providing a practical tool for security research and privacy.
(**C++, Multithreading, Qt, VirtualBox COM APIs)**

8-Bit CPU on FPGA with VHDL & 8-Bit GPU with Logical ICs **08/2022**

The CPU designed and tested on Vivado and consists of two main parts, CPU and memory. VGA-compatible GPU consists two counter blocks for vertical and horizontal synchronization were created from logical ICs
(**FPGA, VHDL, Logic Design, Xilinx, Vivado**)

Flight Controller Software for VTOL on STM32 **02/2022**

Developed flight controller software for VTOL using MPU6050 gyro and BMP180 pressure sensors. The original drivers, the PID algorithm, and more were coded with HAL library.
(**C, STM32, Firmware Development, Driver Development**)

Real-Time Object Tracking With Image Processing **05/2021**

Developed a real-time object tracking system using Python/OpenCV and Arduino-controlled pan-tilt mechanism. The object selected by user with using computer and was tracked. Images were processed with seven different algorithm.
(**Python, OpenCV, Serial Lib**)

LANGUAGES

Turkish – Native

English – Professional working proficiency

HOBBIES

- RC Planes
- Reverse Engineering
- Beekeeping
- Drawing