

András Gémes

 shadowshell.io  github.com/gemesa  linkedin.com/gemesa  gemesa@protonmail.com

Summary

Embedded software engineer with 6 years of experience and a strong interest in cybersecurity, with [hands-on experience](#) in malware analysis and reverse engineering (e.g., ransomware, loaders and botnets). Certified in [Sec+](#), CASP+/SecX, [CEH](#), [IMBT](#) and [PMAT](#). Looking to apply my technical expertise and security skills in a malware analyst or reverse engineer role.

Work experience

Rust Embedded Software Engineer

Feb 2023 – Present

HighTec EDV-Systeme GmbH - Budapest, Hungary

- Developing Rust and assembly tests for the Rust compiler, contributing to its ISO 26262 qualification process
- Hardening the Rust toolchain binaries against reverse engineering
- Creating customer-facing C and Rust examples for real-time operating system (RTOS) and bare-metal environments

Embedded Software Engineer

May 2018 – Jan 2023

Knorr-Bremse - Budapest, Hungary

- Integrated Advanced Driver Assistance Systems (ADAS) software across various Electronic Control Units (ECUs)
- Configured, automated and evaluated Static Application Security Testing (SAST) using PC-lint and Clang-Tidy tools
- Configured memory, real-time operating system (RTOS) and Controller Area Network (CAN) software modules

Skills

Languages: C, Rust, Python 3, Assembly (AMD64/x86-64, ARM64/AArch64), Bash

Malware analysis (static): Ghidra, IDA, capa, YARA, DIE, dnSpy, readelf, objdump

Malware analysis (dynamic): x64dbg, VirtualBox, Sysinternals, Regshot, Frida, GDB, eBPF, strace

Network analysis and protocols: Wireshark, Suricata, Zeek, FakeNet-NG, INetSim, TCP, UDP, HTTP, HTTPS, DNS

Platforms and DevOps tools: Linux (Fedora, Ubuntu), Windows, Git, Docker, GitHub Actions, Jenkins

Embedded systems and protocols: STM32, ESP32, AURIX, Wi-Fi, CAN, SPI, UART, I2C

Certifications

Fundamental cybersecurity: [CompTIA Security+](#), CompTIA CASP+/SecurityX (awaiting certificate), [EC-Council CEH](#)

Malware analysis: [Invoke RE IMBT](#), [TCM Security PMAT](#)

Relevant projects

- [Ghidra](#): contributing bug reports and patches
- [shadow-shell](#): a cyber lab for shellcode analysis, built in Assembly and C
- [sys-scout](#): eBPF tools in Rust and Python for dynamically analyzing malware

Education

MSc in Mechatronics Engineering

Feb 2016 – June 2018

Budapest University of Technology and Economics - Budapest, Hungary

- Master's thesis: Design and development of a solar energy utilization system

BSc in Mechatronics Engineering

Sept 2012 – Jan 2016

University of Pannonia - Veszprém, Hungary

- Thesis: Design and development of a multicopter-carried river sampling device