Bekim Protopapa

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About

Highly skilled Reverse Engineering Expert with over 10 years of hands-on experience in software deconstruction, dissecting complex binaries, analyzing malware, and developing custom tools for software security and compatibility research. Proven ability to dissect complex systems, identify vulnerabilities, and reconstruct proprietary algorithms. Strong background in low-level programming, operating system internals, and performance optimization. Passionate about uncovering how systems work under the hood, from firmware to user-level applications.

Adept at working across Windows, Linux, embedded platforms, and Android with deep expertise in C/C++, Python, Assembly (x86/x64/ARM), JavaScript, and Java. Proficient in IDA Pro, Ghidra, WinDbg, OllyDbg, x64dbg, Binwalk, Metasploit, Wireshark, Burp Suite.

Experience

Senior Reverse Engineer

Agile Information Security | London, UK | Remote
Sep 2022 – Feb 2025

- Led advanced reverse engineering operations targeting proprietary software, kernel drivers, and network protocols.
- Performed vulnerability research and exploit proof-of-concept development for high-security clients.
- Created automation scripts and analysis frameworks using Python and Rust to streamline disassembly and data extraction.
- Worked closely with red/blue teams on threat simulation and mitigation strategies.
- Authored internal whitepapers on binary obfuscation and anti-debugging countermeasures.

Reverse Software Engineer

GHB Intellect | Los Angeles, CA, US | Hybrid
Jan 2017 – Aug 2022

- Conducted deep analysis of compiled binaries using IDA Pro, Hex-Rays, and Ghidra for IP protection and validation projects.

- Reverse engineered firmware, mobile, and desktop applications to recover logic, protocols, and algorithms.
- Delivered expert reports and technical evidence for patent and cybersecurity investigations.
- Mentored junior engineers in reverse engineering methodology and code-level security assessment.

Software Engineer (C/C++, Python Developer)

Appingine | Los Angeles, CA, US | On-Site
May 2014 – Oct 2016

- Designed and maintained high-performance backend components in C/C++ and Python.
- Collaborated with mobile and embedded teams to integrate cross-platform APIs.
- Reverse engineered small legacy modules to modernize and reimplement them.
- Optimized code performance and reliability through profiling, debugging, and automated testing.

Education

Bachelor's Degree in Computer Engineering
Aalborg University
2008 – 2012
- Focus: Computer Architecture, Computer Networks, Software Systems, Assembly Language Programming.
- Activities: Programming Club, Open Source Contributor, Hackathon Participant.
- Senior Project: Dynamic Binary Instrumentation for Embedded Security Analysis.

Master's Degree in Cyber Security
Aalborg Univeristy
2012 – 2014
- Focus: Cyber Security, Malware Analysis, Penetration Testing
- Project: Reverse Engineering of IoT Firmware for Vulnerability Discovery

Skills

- Programming & Scripting – C/C++, Python, JavaScript, Assembly (x86/x64/Arm), Java, Bash
- Reverse Engineering & Binary Analysis & Debugging – IDA Pro, Ghidra, Binary Ninja, x64dbg, OllyDbg, Radare2, edb-debugger, Apktool, Jadx
- Malware Analysis & Forensics – Static & Dynamic Analysis, Sandbox Environments, YARA rules
- Exploit Development – Vulnerability Research, Debugging, Code Auditing, Proof-of-Concept Creation
- Embedded & Firmware Analysis – JTAG, UART, Binwalk, Firmware Emulation

- Security Tools & Frameworks – Wireshark, Volatility, Burp Suite, Metasploit
- Version Control & CI/CD – Git, Jenkins, Docker, GitLab CI

Certifications

- GIAC Reverse Engineering Malware (GREM) – Global Information Assurance Certification
- Offensive Security Certified Professional (OSCP) – Offensive Security
- Certified Ethical Hacker (CEH) – EC-Council
- Python Institute PCPP1 – Certified Professional in Python Programming