

Alexandr Savca

Security Engineer — Application Security, Penetration Testing & Vulnerability Research

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Republic of Moldova

Security engineer and systems programmer with more than twelve years across Linux infrastructure, software security, and network protocols. Professional application-security experience at Salt Edge and independent security research since 2020. Experienced in white- and black-box assessment, source-code review, threat modeling, vulnerability validation, remediation, and security tooling.

Core Expertise

- **Application security:** web and API testing, source-code review, threat modeling, authentication and authorization, vulnerability triage, remediation verification
 - **Security research:** vulnerability analysis, proof-of-concept development, reverse engineering, protocol analysis
 - **Systems:** Linux, systems programming, debugging, infrastructure, performance analysis
 - **Programming:** C, C++, Python, Perl, shell, Tcl/Tk
 - **Network analysis:** Wireshark, Zeek, Nmap, HTTP, DNS, VPN, mail protocols, Oracle TNS
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Selected Achievements

- Disclosed [five vulnerabilities](#): CVE-2020-36420, CVE-2021-38614, CVE-2021-31799, CVE-2021-31810, and CVE-2021-32066
 - Extended Wireshark's Oracle TNS dissector with protocol parsing, authentication, session-key, and packet-handling improvements
 - Contributed support for ELAN0618 hardware to the Linux kernel input subsystem
 - Contributed accepted C and documentation fixes to Perl 5 and am listed in its upstream AUTHORS file
 - Designed the modular package-management architecture used by the [Zeppe-Lin](#) GNU/Linux project
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Experience

Independent Security Engineer & Systems Programmer

Jan 2020 – Present

- Conduct authorized application assessments and source-code reviews, tracing authentication, authorization, data flow, and trust boundaries
 - Develop reproducible proof-of-concept exploits and verification tools for confirmed vulnerabilities
 - Research vulnerabilities in Ruby libraries and network services, resulting in five coordinated CVE disclosures
 - Build and maintain security tools and automation, including [pdf2hashcat](#) and [Pixload](#)
 - Design and maintain Zeppe-Lin's Linux and package-management architecture, with explicit execution, state, recovery, and authority boundaries
 - Contribute fixes to security tools and Linux-based systems and maintain operational documentation
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Information Security Engineer — Salt Edge

Jan 2018 – Nov 2019

- Performed white- and black-box application security testing, manual source-code review, and threat modeling
 - Designed and operated the company's bug bounty program, triaged external reports, and coordinated remediation
 - Translated security findings into remediation requirements and verified implemented fixes
 - Reviewed proposed designs and helped engineering teams apply secure design principles across projects
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System Programmer (Freelance)

Sep 2016 – Feb 2017

- Reverse engineered network protocols and documented observed behavior
 - Developed Zeek (Bro) IDS plugins for protocol visibility and detection
 - Analyzed Oracle TNS traffic and contributed dissector improvements upstream
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System Administrator (Freelance)

2012 – 2017

- Administered Linux infrastructure across DNS, VPN, web, database, and mail services
 - Tuned kernel and system performance and investigated network and service failures
 - Developed operational automation in C, shell, Perl, and Tcl/Tk
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Selected Research & Writing

The Fieldbook (2026)

Author of [The Fieldbook](#), a technical book presenting a practical method for analyzing authority boundaries, contracts, invariants, semantic drift, system failure, intervention, and verification in long-lived infrastructure.

Education

Master's Degree — Database Administration and Web Technologies

2014 – 2016

Thesis: SQLite replicator for UNIX systems

Master's Degree — Psychological Counseling

2012 – 2014