Razvan Ovidiu Wist

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github.com/wist18

Experience

Research Assistant, Vrije Universiteit – Amsterdam, NL Sep 2022 – Jul 2024

- Designed a novel policy to address game inconsistency, reducing network bandwidth utilization by 53%.
- Analyzed Speculative Concurrent Use-After-Free vulnerabilities, identifying 2257 exploitable gadgets in the Linux kernel.
- Conducted security audits on Linux kernel modules, improving defense strategies against microarchitectural side-channel attacks.
- Authored a comprehensive survey on network optimization techniques, highlighting performance trade-offs for large-scale games.

Backend Developer, Capisoft – Amsterdam, NL Sep 2022 – Jan 2023

- Conducted a security audit of internal applications, identifying and mitigating over 200 vulnerabilities.
- Integrated payment processing APIs into the backend, contributing to a 8% net revenue increase through online sales.
- Created a custom dashboard for clients to monitor their stock option investments and include key performance indicators, improving customer engagement by 15%.

Projects

GhostTrail LLVM Compiler Pass (github.com/wist18/GhostTrail/passes) 2024

- Created a compiler pass that uses static analysis to detect speculative race condition vulnerabilities.
- Tools: C++, LLVM

KomPass File Analyzer (github.com/wist18/GhostTrail) 2024

- Developed a file analyzer tool that automates the compilation of C/C++ files into various other formats, such as bitcode and LLVM IR.
- Tools: Python, YML, Bash

Speculative Execution Examples (github.com/wist18/SPECache) 2023

- Implemented a Proof-of-Concept for speculative execution attacks and showcased a specific attack in which cache memory contents are leaked to an adversary.
- Tool: C

Computer Skills

Languages: Python, C, C++, Scala, Java, JavaScript, SQL, MATLAB

Technologies: SQLite, Microsoft SQL Server, Django, Flask, Pandas, NumPy, LLVM

Education

Ecole Polytechnique (Palaiseau, FR), Master's Degree in Cybersecurity Sep 2024 – Dec 2026

- **Coursework:** Machine Learning, Cryptography, Operating Systems, Computer Architecture

Vrije Universiteit (Amsterdam, NL), Bachelor's Degree in Computer Science Sep 2021 – Jul 2024

- **Coursework:** Secure Programming, Concurrency and Multithreading, Graph Theory, Compiler Construction