

# Durnea Maxim

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## Education

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**Politehnica University of Bucharest**

2023 - 2027

*BS in Computer Engineering*

**Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Communication Protocols, Object-Oriented Programming, Numerical Methods

**Additional Training:** Security Summer School for Web Security (2024) - OWASP Top 10, practical vulnerability exploitation

**Baccalaureate grade:** 9.25/10

## Experience & Projects

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**System Logs Anomaly Detector**

[GitHub](#) 

2024

Cybersecurity-focused machine learning project developed during EESTEC OLYMPICS Hackathon for detecting malicious behavior in Windows system logs.

- Developed PCAP to JSON processor for network traffic analysis and data preprocessing
- Implemented neural network using PyTorch for anomaly classification with 90% accuracy
- Applied knowledge of attack patterns and system behavior analysis for threat detection

**Static Site Generator**

[GitHub](#) 

2024

Python-based web application demonstrating advanced OOP principles and automation capabilities.

- Implemented recursive Markdown parsing with regex-based HTML element detection
- Built object-oriented node system for HTML generation using tree structures
- Automated deployment pipeline with GitHub Pages integration using OS and shutil libraries

**Parallel Firewall Implementation**

[GitHub](#) 

2024

Multi-threaded network security tool designed for real-time traffic filtering and analysis.

- Developed concurrent packet processing system using pthreads for reduced latency
- Implemented optimized pattern matching algorithms for efficient threat detection
- Applied low-level programming concepts for memory management and system calls

**GeoIP Tracker Web Application**

[GitHub](#) 

2024

Backend web application for IP geolocation analysis with session management and data export capabilities.

- Built HTTP server with cookie-based session handling and file serving functionality
- Integrated external APIs for IP intelligence gathering and geolocation mapping
- Implemented CSV export and interactive map generation using Python libraries

## Cybersecurity Activities

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**Capture The Flag (CTF) Competitions:**

- **First place** in middle-level CTF during Security Summer School (2024)
- Regular participation in HackTheBox challenges with active writeup publication on Medium
- Currently pursuing Penetration Tester certification path on HackTheBox Academy

**Vulnerability Research & Documentation:**

- Maintain technical blog on Medium documenting HackTheBox machine solutions and exploitation techniques
- Hands-on experience with OWASP Top 10 vulnerabilities through practical challenges
- Built automation scripts in Python for various penetration testing tasks

## Technical Skills

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### Programming Languages:

- **Python:** Advanced OOP, data structures, automation scripting, web development
- **C/C++:** System programming, memory management, multithreading, socket programming
- **Other:** Java, Assembly, Bash scripting, Racket

### Cybersecurity Tools & Knowledge:

- **Penetration Testing:** Burp Suite, Nmap, Hydra for network reconnaissance and exploitation
- **Vulnerability Types:** Injection attacks, RCE, LFI, directory traversal, memory corruption
- **Web Security:** HTTP protocol analysis, client-server architecture, OWASP Top 10
- **Network Analysis:** Wireshark, PCAP processing, traffic analysis and filtering

### Development Tools & Systems:

- **Version Control:** Git workflows, branching strategies, collaborative development
- **Operating Systems:** Advanced Linux CLI, system administration, low-level programming
- **Development:** PyTorch, regex processing, API integration, automated testing

**Languages:** English (C1), Romanian (Native), Russian (Fluent)