

Durnea Maxim

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Education

Politehnica University of Bucharest
BS in Computer Science

2023 - 2027

- **GPA:** 8.31/10 (Current Year)
- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Numerical Methods, Linear Algebra, Object-Oriented Programming
- **Baccalaureate grade:** 9.25/10

Projects

Photo Editing Program (C)

[github.com](#) 

- Developed a C-based application enabling users to apply filters, crop, and rotate images using 2D arrays and matrix transformations.
- Implemented features for adjusting image brightness, applying grayscale filters, and rotating images by 180 degrees.
- Optimized algorithms to process large image files efficiently, ensuring smooth user experience.

Quick Sort in Assembly_x86

[github.com](#) 

- Designed and implemented the Quick Sort algorithm in Assembly_x86, focusing on optimizing performance and memory efficiency.
- Managed recursive calls using stack frames, effectively partitioning arrays with low-level operations.
- Employed Assembly instructions like `jmp` and `cmp` for flow control and direct memory manipulation.
- Debugged and refined the code using `gdb`, deepening understanding of sorting algorithms and system architecture.

Buffer Overflow Exploitation Using Hydra

- Utilized Hydra to reverse engineer a program, uncovering vulnerabilities that led to a buffer overflow.
- Developed a proof-of-concept exploit to illustrate the potential impact and risks associated with the identified vulnerability.
- Gained practical experience in memory management and low-level programming through this exploration.
- Enhanced skills in vulnerability assessment and ethical hacking techniques for future applications.

Extracurricular Activities

CTF Challenges

- Regularly solve Capture The Flag (CTF) challenges to sharpen problem-solving and cybersecurity skills.
- Explore diverse topics, including web exploitation and binary exploitation, to broaden technical knowledge.
- Actively participate in online platforms such as TryHackMe and Hack The Box, applying learned concepts in practical scenarios.

Skills

Programming Languages: Experience with Python, C, JavaScript, and Bash scripting for various applications.

Web Development: Familiar with HTML, CSS, and JavaScript, with experience in building interactive web applications.

Tools: Familiar with Burp Suite, Hydra, and Nmap for security testing and network exploration.

Languages: English(C1), fluent Romanian and Russian