Andrei Tulpan

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Education

University Politehnica of Bucharest

- Master's Degree in Security of Complex Computer Networks — 2024 - present
- Bachelor's Degree in Computer Science and Engineering (GPA: 3.8/4) — 2020 - 2024

Experience

Backend Developer C# — EXE Software (Previse Systems) — apr 2024 - present

- Engineered backend solutions for **price** and **quantity engines** within the Previse Coral platform, optimizing performance and scalability.
- Enhanced processing efficiency by implementing data-driven features in **.NET**, supporting complex trade and risk management requirements for clients.
- Collaborated with cross-functional teams to integrate **SaaS-based ETRM solutions**, ensuring interoperability and seamless integration across multiple client environments.

Software Developer C# — Luxoft (Magna Powertrain) — dec 2023 - apr 2024

- Developing the new **Femfat LAB** application using **C#** and Windows Presentation Foundation **(WPF)**.
- Improved the performance and efficiency with **60%**, reproducing the **Python** scripts natively inside the **C#** application.

Automotive Developer C++ — Luxoft (Continental) — jan 2023 - dec 2023

- Graduated the Telematics Academy where I start my journey through **Autosar**, **CAN** and **CPP STL**.
- After the academy I joined in a team whose purpose was the development of **WiFi** and **Bluetooth** functionality.
- Significantly improved the stability for connectivity on both **NAD** and **IMX** platforms by successfully resolving a multitude of critical bugs. Additionally, I enhanced the **linux networking security** of these systems using **iptables**.

Academy Instructor — Hackademy — oct 2021 - oct 2024

- Teaching students the basics of **Computer Programming**, helping them to understand the concepts of Programming Paradigms and Object-oriented Programming using **Python**.
- Presenting laboratories, helping students to solve them, making subjects for quizzes, laboratories and exams.
- Involved as a core member in **AcadNet Olympics**, and made the subjects for the national stage.

Projects

Secure Infrastructure for Process Execution — C++ — 2024

- Developed a secure and scalable **private cloud infrastructure** enabling automated process execution with **end-to-end encryption** and minimal human intervention.
- Architected using C++ for optimal **efficiency and cross-platform compatibility**, ensuring functionality across a range of devices, from embedded systems to supercomputers.
- Implemented a **TCP-based communication system** with real-time data monitoring and failover mechanisms, protecting against **DoS/DDoS attacks** and featuring **AES-256 encryption** with **Elliptic-curve Diffie–Hellman (ECDH) key exchange** to ensure data security and integrity.

Memory Allocator — C — 2023

- An **efficient memory allocator** which keep the **data aligned (8 bytes)**, to allow **atomicity** and fast reading, keep track of allocated memory blocks and **reuse the freed blocks**.
- Improved my experience with **syscalls (sbrk(), mmap())** and understood how data blocks are splitted, coalesce or how to find the best data block, all of these to **reduce the number of the syscalls** for a **better performance**.

Technical Skills

Programming Languages	C, C++, C#, Python, Java, Dart
Technologies	Linux, Docker, Git, Bash, SQL, Cloud Platforms
Frameworks & Tools	WPF, RESTful APIs, CI/CD (GitHub Actions)
Certifications	CCNA (Modules 1-3)