# IRINEL MANOLACHE
## C++ Software Engineer

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## ABOUT ME

Software Engineer with **7 years of professional experience** in C++ development across embedded, automotive, networking, and tooling domains. Skilled in **cross-platform development (Linux & Windows)**, network protocols, and performance optimization. Adept at working in **agile teams**, contributing to both feature development and legacy code migration. Motivated to deliver **high-quality, well-tested, and maintainable software** while learning new technologies like modern cloud/IoT protocols.

## EDUCATION

Faculty of Computer Science | 2015-2018

Bachelor's Degree in Computer Science – UAIC, Romania

## WORK EXPERIENCE

### Software Engineer (Networking/Embedded)    Crunch | 2022 – Present | Remote

- Designed and implemented **live network traffic analysis** and **packet filtering components**.
- Migrated legacy projects to modern **Ubuntu** versions, patching **kernel** & security requirements.
- **Improved** packet analysis performance by **300%** via custom PCAPNG parser with memory mapping.
- Implemented **HTTP endpoints**, **firewall rules**, and **network interface** configuration for **embedded systems**.
- Documented and developed parsers for **hostname resolution protocols** (**DNS, DHCPv6, NetBIOS, mDNS**).

### Software Engineer (IoT/Embedded Audio)    StreamUnlimited | 2022 | Iasi, Romania

- Customized **Yocto** recipes to run network performance tests on embedded Linux devices.
- Implemented voice assistant request handlers and improved streaming reports.
- Collaborated on IoT modules integration across **Linux-based connected** audio platforms.

### Software Engineer (ADAS)    Continental Automotive | 2020 – 2022 | Iasi, Romania

- Developed signal recording and parameter configuration mechanisms in simulation framework.
- Improved **Python** evaluation scripts performance from 1+ days to 2–3 hours.

### C/C++ Developer (Telematics)    Harman Automotive | 2019 – 2020 | Bucharest, Romania

- Implemented MSD transfer algorithms and network switchers for emergency call systems (ERA/GLONASS).
- Integrated modules using AUTOSAR & CommonAPI framework.

### C++ Automation Tool Programmer    Gameloft | 2018 – 2019 | Bucharest, Romania

- Developed Qt-based automation tools for mobile game testing.
- Enhanced TCP/IP protocol handling, HTTP request monitoring, and **multithreading (Qt signals/slots).**

## SKILLS

- **Languages & Systems: C++11/14/17/20**, **Python**, Bash, JavaScript, Qt, **Linux** (Ubuntu, Yocto), **Windows**
- **Networking & Protocols**: MQTT, **REST**, TCP/IP, L2–L5, **HTTP/HTTPS**, Firewall & Network Interface Config
- **Tools:** Git, GitLab CI/CD, Jenkins, CMake, GTest
- **Practices**: Agile/Scrum, Code Reviews, Unit Testing, Continuous Integration