IRINEL MANOLACHE
C++ Software Engineer

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ABOUT ME

Embedded Software Engineer with 7 years of experience in **C/C++ development** across **embedded Linux**, **automotive**, IoT, and **networking systems**. Skilled in network protocols (**REST**, DNS, DHCPv6, NetBIOS, mDNS), system-level programming, and cloud connectivity. Proven track record of designing high-performance interfaces, optimizing performance, and ensuring reliable integration between hardware and software. Strong collaborator in **agile teams** with excellent English communication skills.

EDUCATION

Faculty of Computer Science | 2015-2018

Bachelor's Degree in Computer Science – UAIC, Romania

WORK EXPERIENCE

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

- Designed and implemented **live network traffic analysis** and **packet filtering components**.
- Upgraded legacy project OS from **Ubuntu 18** to **Ubuntu 22**, including **kernel upgrades** for security.
- **Improved** packet analysis performance by **70%** 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**).

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

- 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.

Continental Automotive | 2020 – 2022 | Iasi, Romania
Software Developer (ADAS Simulation Platform)

- Developed signal recording and parameter configuration mechanisms in simulation framework.
- Improved evaluation scripts performance from 1+ days to 2–3 hours.
- Created radar model integrations and maintained Jenkins CI pipelines.

Harman Automotive | 2019 – 2020 | Bucharest, Romania
Software Developer (ADAS Simulation Platform)

- Implemented MSD transfer algorithm and mobile network switcher for emergency call systems.
- Designed ERA test performer for ERA-GLONASS compliance (Russian eCall standard).
- Developed proxy/subscription mechanism using CommonAPI for embedded telematics software.

SKILLS

- **Languages & Systems:** C, C++11/14/17/20, **Embedded** Linux, **Yocto**, Bash, Git, CMake
- **Networking & Protocols**: MQTT, **REST**, TCP/IP, L2–L5, **HTTP/HTTPS**, Firewall & Network Interface Config
- **Tools:** GitLab CI, Jenkins, Wireshark, Jira
- **Other**: Multithreading, Performance Optimization, Cloud Connectivity (AWS/Azure IoT familiarity)