

IRINEL MANOLACHE

Senior C++ Developer | Networking & Embedded Systems

 Remote EU/Global | <https://mesterul-manole-tech.github.io/manolache-irinel-cv/>

ABOUT ME

Senior Software Engineer with 7+ years of experience designing and implementing high-performance C++ systems across **networking, embedded Linux, automotive, and IoT**. Specialized in **low-level system programming, protocol analysis, and performance optimization**. Skilled in modern C++ (11/14/17/20), multithreading, and cross-platform development. Proven track record in **network traffic analysis, embedded integrations, and scalability improvements**. Strong communicator with experience in mentoring and collaborating on distributed teams.

SKILLS

- **Languages:** C, C++11/14/17/20, Python, C#, JavaScript
 - **Networking:** L2–L5 protocols, packet filtering, protocol parsing, firewall & interface configuration
 - **Systems:** Embedded Linux, Windows, Yocto, CI/CD (GitLab, Jenkins), Docker
 - **Concepts:** OOP, Multithreading, Multiprocessing, Memory Optimization, Performance Profiling
 - **Tools:** Git, Wireshark, CMake, Jira, Qt, AUTOSAR, CommonAPI
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WORK EXPERIENCE

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

- Designed and implemented **high-performance packet filtering and traffic analysis procedures**.
- Migrated and modernized projects to **new Ubuntu LTS and kernel versions**, meeting security requirements.
- Developed **network interface and firewall configuration procedures**.
- Improved **packet analysis performance by 875%** via a highly optimized custom parser with memory mapping.
- Delivered **secure HTTP endpoints** abstracting OS/hardware interactions.
- Authored documentation and procedures for hostname resolution protocols (DNS, DHCPv6, mDNS, NetBIOS).
- Implemented **robust multithreaded state machines** to handle concurrent sessions safely.
- Enhanced **protocol parsers** for authentication and directory services.
- Improved **memory and CPU utilization** in packet processing modules.
- Developed **secure API endpoints and monitoring hooks** to streamline system integrations.
- Contributed to **release management**, ensuring feature completeness and stability.
- Led **code reviews** and participated in **system design meetings**.

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

- Extended **streaming report and performance testing mechanisms**.
- Customized **Yocto builds** to validate network performance.
- Integrated **voice assistant request handling**.

WORK EXPERIENCE

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

- Implemented **signal recording and vehicle configuration mechanisms** in simulation framework.
- Improved evaluation script runtime **from 1+ days to a few hours**.
- Contributed to **radar model development** and Jenkins CI enhancements.
- Mentored **internship students**.

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

- Developed **emergency call system features (BMW/ERA-GLONASS)**.
- Implemented **data transfer algorithms, network switchers, and proxy/subs mechanisms**.

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

- Extended Qt-based automation framework used to create **JS test scripts for mobile devices**.
- Improved **TCP/IP communication handling** and Android/iOS automation clients.

EDUCATION

Faculty of Computer Science | 2015-2018

Bachelor's Degree in Computer Science – UAIC, Romania

LANGUAGES

- Romanian – Native
- English – Professional proficiency