



# IRINEL MANOLACHE

## C/C++ Developer

### My Contact

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🐙 <https://github.com/iSizar>

### Hard Skill

- Object-oriented programming (OOP)
- Data structures and algorithms
- Database and SQL
- Containers
- Git version control
- Cloud computing

### Soft Skill

- Teamwork
- Research
- Communication
- Adaptability
- Creativity

### Education Background

- Faculty of Computer Science- UAIC Iasi  
*Bachelor degree*  
10/2015 - 06/2018
- Faculty of Computer Science- UAIC Iasi  
*Master degree*  
08/2021 - Present

### 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 Rust and modern cloud/IoT protocols.

### Professional Experience

#### Crunch | External Contractor

06/2022 - Present

Crunch is an outsourcing company that brings together the best engineering talent in Eastern Europe to help clients create high quality software solutions.

#### Job description

Working in the Delivery team for an external company that is in the Network Analysis Tools business.

#### Achievements/Tasks

- Designed and implemented highly efficient procedures for live network traffic analysis that improved packet analysis **performance** by **300%**;
- Migrated legacy projects to modern **Ubuntu** versions, patching **kernel** & security requirements.
- Implemented a network traffic filter component that handles packet filtering from input files based on user-defined filters;
- Designed and implemented a watchdog procedure to ensure that critical system components are running as expected;
- Improved the live analysis by implementing logical handle for various host naming protocols;
- Developed HTTP endpoints for various components to abstract low-level interactions with hardware or OS primitives;
- Developed network interface and firewall configuration procedures;
- Participated in application design meetings;
- Developed the authentication and authorization component;

#### Skills

- Object-oriented programming (OOP),
- Data structures and algorithms,
- C, C++14, C++17 and C++20,
- Multithreading & Multiprocessing,
- Inter-process communication,
- CI - Gitlab, Git,
- SQL, L3 protocols
- GTests - Unite testing
- Robot testing -API tests

## Languages

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- English Fluent
- Romanian Native

## PERSONAL PROJECT

### *DeepChessLearning (01/2018 - 06/2018)*

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- In this project I designed and trained a neural network able to play chess at a high level;
- The model was developed in python using tensorflow module and the interface was an Android application;
- In the Android application were used the following design patterns : Builder, Decorator and Factory;
- Link: <https://bitbucket.org/Sizar/licenta2018/src/master/>.

### *Mario\_Q-learning (09/2017 - 01/2018)*

- This project consisted in building and training an NN based intelligent agent to play the famous Nintendo game Super Mario using the Q-Learning algorithm.
- The model was trained using Keras python module; The UI was developed using Pygame python module;
- Link: [https://github.com/iSizar/Mario\\_Qlearning/tree/master/marioQ](https://github.com/iSizar/Mario_Qlearning/tree/master/marioQ).

### *BiDaR (07/2021 - 01/2022)*

- BiDaR is a micro-service-based platform able to intelligently query, compare, visualize, share, summarize, etc. large sets of data/knowledge from Wikidata and Google Knowledge Graph according to user's needs and preferences—considering demographic information and interests.
- Git: <https://github.com/wad-project-amm-mt-im/BiDaR>
- Demo: <https://www.youtube.com/watch?v=X42Dmcs88YM>

## StreamUnlimited Romania SRL | Software Engineer

01/2022 – 06/2022 Iasi, Romania

StreamUnlimited is a supplier of software solutions and hardware modules for connected audio and IOT products, with offices in four global locations.

### *Job description*

Developed new features for the sound speaker that where in the production phase in the Romanian development center.

### *Achievements/Tasks*

- Upgraded the TuneIn report mechanism, streaming/listening reports.
- Added a custom *iperf3 recipe* in the yocto configuration files in order to create a custom image for some network tests;
- Implemented a volume adjustment mechanism , that increase/decrease volume for the Alexa assistant according to customer request.

### *Skills*

- Object-oriented programming (OOP)
- QT&C++,
- Yocto,
- Jira,
- CMake,
- Git

## Continental Automotive Romania | Software Developer

11/2020 – 01/2022 Iasi, Romania Continental- ADAS business area

develops, produces and integrates active and passive safety technologies and controls vehicle dynamics.

### *Job description*

Worked as a Software Engineer for the Virtual Simulation Platform team which is responsible with the open loop & close loop simulation testing of the latest driving functions.

### *Achievements/Tasks*

- Designed & Implemented the signal recording mechanism for internal simulation framework; Designed & Implemented a
- simulation vehicle parameter configuration mechanism based on configuration files; Improved the performance of evaluation
- scripts for internal simulation recordings (from 1+ days to 2 or 3 hours for the worst cases); Radar model creation for Automotive Internal Simulation Framework; Maintained & Improved Jenkins
- Continuous Integration mechanism with custom stages like copy of files to a desired location; Assigned to be a mentor for
- internship students.

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### *Skills:*

- Data structures and algorithms,
- Object-oriented programming (OOP),
- Python, Jenkins, C++14, Git.
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## Harman Romania | Junior C/C++ Developer

07/2019 – 08/2020 Bucharest, Romania

HARMAN is a global leader in connected car technology, lifestyle audio innovations, professional audio & lighting solutions, and design & analytics.

### Job description

Worked as a C++ developer in the Emergency Calls App team of Telematics division and developed the latest functionalities for BMW cars.

### Achievements/Tasks

- Designed and implemented a MSD (Minimum Set of Data) transfer algorithm;
- Designed and implemented a mobile network switcher for Russian dedicated mobile emergency network (ERA);
- Designed and implemented an ERA test performer class. ERA test consists in some audio modules tests that should be made in order to check the ERA-GLONASS (Russian version of eCall-EU) validity;
- Implemented proxy/subs mechanism using CommonAPI framework;

### Skills:

- Data structures and algorithms,
- Object-oriented programming (OOP),
- C++11,
- AUTOSAR,
- Common-API,
- G Test,
- JIRA,
- Git.

## Gameloft | QA Automation Programmer

10/2018 – 06/2019 – Bucharest, Romania

Gameloft is a leading digital and social game publisher..

### Job description

Worked as a C++ developer in the Automation Team and developed new features for the Automation Tool which is an in-house created Qt application used to develop and automate testing JS scripts.

### Achievements/Tasks

- Maintained multi-threading communication using Qt signals&slots mechanism;
- Implemented a CURL progress function based on transfer speed for HTTP requests; Improved a TCP/IP based protocol of communication in order to handle error cases and better handle the disconnection sequence;
- Improved the Native Interactions ANDROID and IOS applications that were used in simulating some human actions on the mobile devices like: swipe, touch, press and hold, s.a.;

### Skills:

- Data structures and algorithms,
- Object-oriented programming (OOP),
- Qt&C++,
- JavaScript,,
- ANDROID,
- Objective C,
- Bash & Batch,
- HTTP,
- JIRA,
- SVN