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 **875**%;
- 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

- English Fluent
- Romanian Native

PERSONAL PROJECT

DeepChessLearning (01/2018 - 06/2018)

- 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.

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 an 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 inside created Qt application used to develop automate testing JS scripts.

Achievements/Tasks

- Maintained multi threading communication using QT signals&slots mechanism;
- Implemented an CURL progress function based on transfer speed
- for HTTP requests; Improved an 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 where 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