



Alexandru-Fabian Macovei

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Website: <https://github.com/macovei-alex>
Date of birth: 10/09/2003 **Nationality**: Romanian

EDUCATION AND TRAINING

[09/2010 – 2018] **Secondary school graduate**
"Miron Costin" Secondary School Galati

City: Galati | **Country**: Romania |

[09/2018 – 2022] **Highschool graduate**
"Mihail Kogalniceanu" Highschool Galati

[09/2022 – Current] **Computer Science Bachelor's Degree**
University Transilvania Brasov, Romania www.unitbv.ro
City: Brasov | **Country**: Romania | **Field(s) of study**: Computer Science

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

My Digital Skills

Programming languages

C/C++ | Java | Python | C# | SQL | Html, CSS, JS (Basics) | TypeScript

Technologies

Overleaf & LaTeX | Linux (Basics) | Angular | Git and Github (Basics) | PostgreSQL | SQL Server

Spare time

Basketball | Volleyball | Piano | Cycling

PROJECTS

Ancient City

A 3D graphical interactive application that allows you to explore an ancient Asian city. It contains graphical elements like lighting, free camera, particle systems and batch rendering. The project is written in C++ and it is rendering on the GPU via OpenGL 3.3.

Link: <https://github.com/macovei-alex/Ancient-City>

[2023 – 2023] **From Regex to DFA**

A regular expression to deterministic finite automaton converter. The purpose of this project is to implement Regex matching from scratch. By converting the Regex to a DFA, we can check if any word exactly matches the given expression by traversing the resulting automaton. The programming language used is C++.

Link: <https://github.com/macovei-alex/LFC-automat-lambda-regex>

[2023 – 2024] **From FA to Regex**

A finite automaton to regular expression converter written in Python. It uses an algorithm that removes each middle node 1 by 1 and computes the Regex iteratively.

Link: <https://github.com/macovei-alex/Automaton-to-Regex>

[2023 – 2023] **MFRT**

A small custom translator from the brainf*ck programming language to C. The translator is itself written in C and the built via Make. There is also a version written in C++.

Links: <https://github.com/macovei-alex/mfirt> | <https://github.com/macovei-alex/mfirtCpp>

[2023 – 2024] **Dictionary**

A dictionary with graphical interface in C# as a WPF application. The words are being stored in a folder system. Besides the add, remove, edit and search functionality, this application provides a minigame of guessing the words from the definition or the image in the dictionary.

Link: <https://github.com/macovei-alex/Dictionary>

[2024 – 2024] **Supermarket manager**

A graphical interface application in C# and WPF for managing a supermarket. It has an integrated database in SQL Server. You can add, remove, edit products, suppliers, product stocks, etc. You can roleplay as a cashier and checkout shopping lists. It has some basic caching functionality, to reduce the number of database calls. The application follows the MVVM architecture

Link: <https://github.com/macovei-alex/Supermarket>

From Logical Functions to Logical Circuits

A Python project that converts any logical function into its corresponding circuit. The circuit is then being drawn on the screen using the tkinter library, with color coding for the wires to more easily identify the boolean variables.

Link: <https://github.com/macovei-alex/Logical-Functions-to-Circuits>

[2024 – 2024] **Checkers**

A checkers game implementation in C# with WPF interface that follows the MVVM architecture.

Link: <https://github.com/macovei-alex/Checkers>

[2022 – 2023] **Processing-Java graphical projects**

All kinds of small graphical canvas applications written in Java using the Processing framework. The highlight is the Rubik's Cube, which is a 3D rendition and an interactive solving game. Another project I'm proud of is the Sudoku game.

Link: <https://github.com/macovei-alex/Processing-graphics-projects>

[2022 – 2023] **Online Pixel Drawing**

A multi-user client-server TCP application for coloring rectangles on the screen, inspired by Reddit's [r/place](#). The back-end is made with C# and it's built-in TCP classes, the front-end is a C# Windows Forms application.

Link: <https://github.com/macovei-alex/Online-Pixel-Drawing>

Online Learning Platform Database

A database designed for an online learning platform. PostgreSQL was used for this project.

Link: https://github.com/AndreiClies/Platforma_de_invatare_online_Baza_de_date

Skribbl

A Skribbl-like game written in C++. It supports multiple users in separate room. The communication is done via a custom server and the REST API with the help of the crow and cpr C++ libraries. The UI is developed using the Qt framework.

Link: <https://github.com/macovei-alex/VitaminCpp>

[2022 – 2023] **Process Scheduling**

A C++ application that simulates the scheduling of processes in an operating system. It has multiple algorithms implemented, statistics, unit tests and conclusions. The project is built with Make and the g++ compiler.

Link: <https://github.com/macovei-alex/Process-Scheduling>

[2023 – 2024] **Task Tracer**

A fullstack web application for managing tasks. It uses Angular as a frontend framework, .NET for the server and MongoDB for the database.

Link: <https://github.com/macovei-alex/Task-tracer>