Alexandru-Fabian Macovei

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Date of birth: 10/09/2003 **Nationality:** Romanian

EDUCATION AND TRAINING

[2022 – Current] **Mathematics and Informatics Bachelor's Student**

Transilvania University Brasov, Romania   www.unitbv.ro

City: Brasov | **Country:** Romania | **Field(s) of study:** Informatics

[2018 – 2022] **Highschool graduate**

"Mihail Kogalniceanu" Highschool Galati

[2010 – 2018] **Secondary school graduate**

"Miron Costin" Secondary School Galati

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

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING C2 **READING** C2 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

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 | TypeScript | JavaScript

Technologies

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

Spare time

Basketball | Volleyball | Piano | Cycling

PROJECTS

[2024 – 2024] **Supermarket manager**

A graphical interface application in C# and WPF for managing a supermarket. It has an integrated SQL Server database. You can add, remove, edit products, suppliers, product stocks, etc. You can also 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

[2024 – 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

[2024 – 2024] **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

[2024 – 2024] **Checkers**

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

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

[2024 – 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

[2024 – 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/Dictionar

[2023 – 2024] **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

[2023 – 2024] **Online Learning Platform Database**

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

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

[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 – 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/mfrt |
https://github.com/macovei-alex/mfrtCpp

[2023 – 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 – 2023]   **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

[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 backend is made with C# and it's built-in TCP classes, the frontend is a C# Windows Forms application.

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

[2021 – 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