Raul Ababei

Date of birth: 13/07/2006 | **Place of birth:** Romania | **Nationality:** Romanian | **Gender:** Male | **Phone:** (+40) 744121304 (Mobile) | **Email address:** ababeiraul13@gmail.com |

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ABOUT MYSELF

Passionate about **robotics, programming, AI and ML**, I enjoy creating projects that combine **mechanics, electronics, and software**.

Motivated and hardworking, especially trying to learn new skills. Participated in **national and international competitions**, working on complex systems that strengthened my teamwork and problem-solving skills.

Experienced with **C++, Python, JavaScript, C#, PHP, React, Spring Boot, Flask, Node.js, .NET, PostgreSQL, Git, Pytorch, NextJS, Assembly** I love exploring new technologies and developing innovative solutions.

Currently studying **Computer Science at the University of Bucharest (FMI)**.

WORK EXPERIENCE

18/03/2024 - 22/03/2024 - BRASOV, ROMANIA

PRODUCT DEVELOPMENT MANAGER PREH ROMANIA

During a one-week internship at Preh Romania through the "Fit4Future" program, I explored the pre-production process and observed how engineering, design, and manufacturing teams work together to transform ideas into tangible products. The experience strengthened my passion for technology and the manufacturing industry.

14/02/2026 - 15/02/2026 - STOCKHOLM , SWEDEN

HACKATHON COMPETITOR CISPA EUROPEAN CYBERSECURITY & AI CHAMPIONSHIP

- Selected to compete in a rigorous 24-hour pan-European hackathon focused on trustworthy AI and digital resilience at KTH Royal Institute of Technology.
- Collaborated in a 3-person team to solve difficult challenges at the intersection of machine learning and privacy.
- Developed solutions for three complex tasks: reconstructing private data via model inversion, analyzing ML model misclassification in image classification, and finding faulty data in label grouping (chimeras).

Website: https://cispa.de/en/cispa-hackathon-championship

01/09/2022 - 01/06/2024 - BRASOV, ROMANIA

MECHANICAL TEAM LEADER KRONBOT - FIRST TECH CHALLENGE ROMANIA

- **Mechanical Design & Fabrication:** Directed the end-to-end design, rapid prototyping, and assembly of competitive robots, utilizing CAD modeling and custom fabrication techniques to build and optimize complex mechanisms.
- **Cross-Functional Leadership & Achievement:** Coordinated a specialized mechanical team and collaborated closely with software developers to integrate hardware and code, driving the team's successful qualification for the 2023 FTC Romania National Championship.
- **High-Pressure Troubleshooting:** Ensured continuous, reliable robot performance during intense competition environments by swiftly diagnosing mechanical failures and executing rapid, on-the-fly repairs.

EDUCATION & TRAINING

09/09/2021 - 06/06/2025 - BRASOV, ROMANIA

HIGHSCHOOL DIPLOMA- COLEGIUL NATIONAL DE INFORMATICA "GRIGORE MOISIL"

Field(s) of study: Mathematics-Informatics | **Final grade:** 9.75

30/09/2025 - Current - BUCURESTI, ROMANIA

BACHELOR'S DEGREE- UNIVERSITATEA DIN BUCURESTI

- Coursework focused on core areas of computer science, including programming (C, C++, Python), algorithms and data structures, software engineering, databases, and computer networks. Additional studies covered embedded systems, artificial intelligence, and robotics, providing a strong foundation in both software development and hardware integration.

Field(s) of study: Computer Science

LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	B2	C1	B2
GERMAN	A2	A2	A1	A1	A2

SKILLS

Microsoft Office | Microsoft Word | Microsoft Powerpoint | C++ | Python | JavaScript | PHP | C# | SQL | HTML | CSS | Git | Critical Analysis and Problem Solving | Software Develoment | Robot programming | Active learning | AI | Agentic workflows | JSON | Linux | ML | Pytorch | NextJS

PROJECTS

01/05/2023 - 30/10/2023

DpIT As part of this competition, I built a startup from scratch, bringing together my robotics experience and newly acquired business and entrepreneurship skills.

15/02/2024 - 01/08/2024

Quest Designed and prototyped "**Quest**," a hybrid search-and-rescue robot capable of morphing between a four-wheeled rover and a quadcopter drone to navigate inaccessible environments. Engineered a multi-controller architecture using a **Raspberry Pi 4B** for high-level processing, an **Arduino Mega** for motor control, and a **Pixhawk 2.4.8** for flight stability, all powered by a custom power distribution circuit. Developed a custom 3D-printed PETG-CF chassis featuring a unique servo-actuated transformation mechanism and internal gear-driven wheels that allow for unobstructed flight. Implemented an autonomous object detection system using **YOLOv8n** on an **Oak-D Lite** camera, enabling the robot to identify and track victims in real-time while streaming low-latency video to a React-based web interface.

Participated in the **InfoEducație National Competition** and got **3rd** place, project developed by me and Motoasca Alexandru**.**
Links https://github.com/costitza/Quest

30/09/2021 - 01/08/2024

InfoTron Over three consecutive editions of the **InfoTRON competition**, I developed multiple **robotics projects** that combined **mechanics, electronics, and programming** into fully functional systems. Among these, I designed multiple robots capable of autonomous driving and real-time environmental adaptability.

30/11/2023 - 15/05/2024

Maratonul de Educatie Antreprenoriala Participated in the **Entrepreneurship Marathon**, where I built a **startup concept and brand from scratch**. Our project focused on developing a **smart waste bin** capable of identifying and sorting recyclable materials automatically.

I contributed to creating the **business plan, branding, and product concept**, combining technical innovation with entrepreneurial thinking. This experience gave me insight into **how technology can address environmental challenges** while enhancing my teamwork, communication, and problem-solving skills.

15/05/2025 - 29/07/2025

uDraw Developed **uDraw**, a Windows-based **drawing application** built in **C# with Windows Forms** and connected to a **SQL Server database** for saving and loading drawings. Designed as a **personal learning project**, it focuses on combining UI development with database management.

Key features include creating and saving drawings to a database, loading previous sessions, and managing configurations through a custom settings file.

Technologies: C#, .NET Framework, Windows Forms, SQL Server
Links https://github.com/costitza/udraw

11/12/2025

.flux Vibecoded**AI Engineering Context Dashboard** that secured 4th place at the ElevenLabs "AI Tinkerers" 4-hours Hackathon. I co-developed .flux with Tisca Catalin, an intelligent dashboard that unifies scattered engineering context. The system orchestrates specialized AI agents to synthesize data from GitHub repositories, PRs, and meeting transcripts, creating a semantic map of the codebase's evolution. This powers a multimodal voice assistant, enabling engineers to "talk" to their projects and retrieve real-time insights that traditional static tools overlook.

Links https://github.com/costitza/dotflox

HONOURS AND AWARDS

05/08/2024 Ministerul Educatiei
InfoEducatie National Olympiad - 3rd place

10/03/2023 FTC Romania
First Tech Challenge National Qualification

10/05/2022 Informatica, pasul tau spre lumea mecatronicii - Infotron_2022
Infotron 2nd edition - 1st place

15/06/2024 Informatica, pasul tau spre lumea mecatronicii - Infotron_2024
Infotron 4th edition - 1st place

27/10/2024 Robochallenge
Robochallenge 15th edition - freestyle showcase - honorable mention

10/03/2023 Ministerul Educatiei
Informatics Regional Olympiad - Honorable mention