

## PROFILE

As a high school student with an insatiable curiosity and strong convictions, I dive headfirst into every opportunity. From a young age, I've been captivated by the inner workings of Linux, which has given me a personal appreciation for low-level coding. My greatest joy comes from writing C code that's not just efficient but downright practical.

## EDUCATION

### •Mathematics and Informatics Profile

2021-Present

National High School “Vasile Alecsandri”, Galați

## VOLUNTARY WORK

### •Scripting Volunteer at Room At The Inn, Nashville, TN

June 2020 - August 2023

Volunteer in the award winning project providing homeless people in the Nashville, TN area

- Tools & technologies used: Ignition (Inductive Automation), Microsoft SQL Server
- I have been tasked with making the scripting in the project work, bringing everything to life.
- It was also my first time having clear deadlines and goals set by others.

### •System Integrator for Lemacons S.R.L. Galați

August 2022

Industrial control and readout system for a grain weighing scale

- Tools & technologies used: Ignition (A supervisory control and data acquisition system), RS485 Communication, Raspberry Pi
- Developed a software system for Lemacons, aiding in their successful reach of the second most profitable company in Galați
- This system was tasked with storing measurements in a database, and generating statistics and visualizations through an Ignition frontend

### •Head of the Programming Department of the Robotics Team RoSophia#21455

December 2022 - Present

Programming autonomous motion control systems for an award winning robot

- Tools & technologies used: Java, Kotlin, Android Studio, KiCad
- I have been part of this team for 3 consecutive years, working our way up to winning the most prestigious award at the regional and national level, in the end qualifying us for the international competition where we managed to reach the division semi-finals.
- Programming the robot meant programming mechanical systems to work in an efficient and fully autonomous fashion. To achieve this I had to rely on internal sensors and camera vision, applying corrections and taking decisions based on the given inputs. I have even had to design and assemble my own printed circuit boards for specific sensors.
- Through competing in First Tech Challenge I've also enhanced my communication skills, teamwork and quick critical thinking.

### •Server Administrator for Apa Canal S.A. Galați

2019 - Present

Setting up and maintaining SCADA servers for my local water utility company

- Tools & technologies used: Ignition (Inductive Automation), PostgreSQL, VMware, QEMU, Nginx
- Working with them I've had to set up Ignition and PostgreSQL database servers in both bare metal and virtualised environments.
- At the same time I've also learned how to maximise the uptime of servers through configuring fallbacks for every system.

## PERSONAL PROJECTS

### •FPGA Signal Analyser

January 2024 - Present

A digital signal analyser controlled by a field-programmable gate array

- Tools & technologies used: FPGA, Vivado, Verilog to Routing
- This project facilitates my learning of using technology comparable to customisable silicon chips with which I design to eventually power a bionic, mechanised arm.

### •Analog Levitator

August 2023 - Present

A personal electromagnetic levitator for my keys

- Tools & technologies used: Power electronics, Electromagnets
- This project not only made me truly understand the magnetism in electromagnetism, but it also opened my eyes to the complexities of analog systems.

## •Suijin

October 2021 - Present

*A fully featured 3d renderer including volumetric clouds*

- Tools & technologies used: C, OpenGL, Blender
- I created this piece of software ex nihilo, resulting in a new-found appreciation for core computer graphics and 3d modeling in Blender.

## •SNMP Ignition Module

May 2020

*A module that enabled snmp (a network diagnostics protocol also used in network routers) communication in Ignition*

- Tools & technologies used: Ignition (Inductive Automation), SNMP, Java, Maven
- Writing this helped me learn the basics of networking protocols.
- This module also been used by the ADM company with over 42000 employees.

## •Nixie Clock

January 2022

*A decorative clock based on soviet era nixie tubes*

- Tools & technologies used: Breadboards, Arduino, Soldering
- This project sparked my interest in electronics and helped me understand electricity better.

## •Iamonalist

June 2020

*Website designed to function as a project managment platform*

- Tools & technologies used: Svelte, Javascript, Typescript, Nodejs, Deno, MongoDB, Docker
- Through this I got my start in full stack development as well as with using databases.

## •QShop

May 2020

*A shop plugin for Minecraft*

- Tools & technologies used: Java, Maven, Git & Github
- My plugin was implemented and successfully facilitated trading in two medium sized Minecraft servers ( 200 users)

## TECHNICAL SKILLS AND INTERESTS

**Languages:** C, modern C++, Python, Java, Kotlin, Verilog, Javascript, Typescript

**General purpose:** Linux, Git, Github, CMake, Gnu Maketools

**Computer graphics:** OpenGL, Vulkan, X11, Wayland

**Compartmentalisation:** VMware, QEMU, VirtualBox, Docker

**Databases:** PostgreSQL, MongoDB, SQLite, MariaDB, Microsoft SQL Server, Oracle

**CAD & CAM:** Kicad, Blender, OpenSCAD, EPLAN Electric, OnShape

**Electrical skills:** Soldering, Design of electrical schematics and PCBs, FPGA Development

**Extras:** Ignition (Inductive automation), Nginx, Latex, Groff, Vivado, Verilog to Routing

**Areas of Interest:** Algorithms, Computer graphics, Particle and Nuclear Physics, Astronomy, Mathematics, Linguistics, Engineering, Music

## ACHIEVEMENTS

•1st place at the <b>National Applied Informatics</b> olympiad Acadnet	2024
•Division semi-finalists at the <b>International Robotics</b> competition First Tech Challenge	2024
•Think award 2 at the <b>International Robotics</b> competition First Tech Challenge	2024
•Inspire award 2 at the <b>National Robotics</b> competition First Tech Challenge	2024
•Inspire award 1 at the <b>Regional Robotics</b> competition First Tech Challenge	2024
•2 time Silver Medal at the <b>Romanian Informatics</b> olympiad	2021, 2022
•5 time 1st place at the <b>Galați Informatics</b> olympiad	2018, 2020, 2021, 2022, 2024
•2nd prize at the <b>National Physics</b> contest Mircea Amarine	2020
•3rd prize at the <b>National Physics</b> contest PHI	2020
•Judge's award at the <b>National Robotics</b> competition FTC	2020
•Honourable mention at the <b>National Informatics</b> competition Prosoft@NT	2024
•Honourable mention at the <b>Galați Mathematics</b> olympiad	2021
•Honourable mention at the <b>Galați Physics</b> olympiad	2020

## LANGUAGES

<b>English</b>	C2	Fluent	<b>Japanese</b>	B2	Vocational
<b>Romanian</b>	C2	Native	<b>Swedish</b>	B1	Conversational
<b>German</b>	B2	Vocational	<b>French</b>	B1	Conversational