$\mathbb{R}^2$ **Pintilie Sebastian Marian**
Technische Universiteit Eindhoven
+31645270819
raraiku@proton.me
gitRaiku

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

•Bachelor of Electrical Engineering *2025-Present*
Technische Universiteit, Eindhoven

•Mathematics and Informatics Profile *2021-2025*
National High School "Vasile Alecsandri", Galaţi

Voluntary work

•Network and Security Engineer for Apa Canal S.A. Galaţi *2024 - 2025*
Setting up and maintaining secure connectivity and automated vulnerability testing for my local water utility company

- Tools & technologies used: Security Onion, Wazuh, Greenbone, XCP-ng, Winbox
- Working with the company I deployed and maintained servers hosting IDS/IPS solutions to be used to guard the entire county.
- I implemented and secured WireGuard tunnels to protect communications for 500+ MikroTik and Teltonika routers.

•Head of the Programming Department of the Robotics Team RoSophia#21455 *2022 - 2025*
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. Galaţi *2019 - 2025*
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.

•Scripting Volunteer at Room At The Inn, Nashville, TN *2020 - 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. Galaţi *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 Galaţi
- This system was tasked with storing measurements in a database, and generating statistics and visualizations through an Ignition frontend

Personal Projects

•FPGA RISC-V CPU *August 2025*

A 32 bit CPU supporting the RV32G instruction set

- Tools & technologies used: FPGA, Vivado, Verilog to Routing
- The CPU supports ram access using an external chip as well as boasting an SD-card interface for persistent storage.
- This project deepened my experience with technology similar to customizable silicon chips, which I plan to use to eventually recreate vintage computer systems.

•Analog Levitator *January 2025*

A personal electromagnetic levitator for 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 - 2024*

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.

•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 and PCB design better.

•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
- This module taught me the basics of networking protocols, while having also been used by the ADM company with over 42000 employees.

Technical Skills and Interests

Languages: C, modern C++, Python, Java, Kotlin, Verilog, Javascript, Typescript
General purpose: Linux, Git, Github, CMake, Gnu Autotools
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 and gold medalist at the **National Applied Informatics** olympiad Acadnet *2024, 2025*
•Division semi-finalists at the **International Robotics** competition First Tech Challenge *2024*
•Think award 2 at the **International Robotics** competition First Tech Challenge *2024*
•Inspire award 2 at the **National Robotics** competition First Tech Challenge *2024*
•Inspire award 1 at the **Regional Robotics** competition First Tech Challenge *2024*
•2 time Silver Medal at the **Romanian Informatics** olympiad *2021, 2022*
•6 time 1st place at the **Galaţi Informatics** olympiad *2018, 2020, 2021, 2022, 2024, 2025*
•2nd prize at the **National Physics** contest Mircea Amarine *2020*
•Judge's award at the **National Robotics** competition FTC *2020*
•Honourable mention at the **National Informatics** competition Prosoft@NT *2024*
•Honourable mention at the **Galaţi Mathematics** olympiad *2021*
•Honourable mention at the **Galaţi Physics** olympiad *2020*

Languages

English	C2	Fluent	**Japanese**	B2	Vocational
Romanian	C2	Native	**Swedish**	B1	Conversational
German	B2	Vocational	**French**	B1	Conversational