Curriculum Vitae | Geala Stefan-Octavian

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Location: Bucharest, Romania

Professional Summary

Innovative young engineer and environmental researcher with hands-on experience in IoT systems, embedded hardware design, and web development. Passionate about sustainability and smart city solutions, with a proven record of developing integrated hardware and software platforms that leverage data and machine learning to improve efficiency, reduce emissions, and promote environmental awareness.

Education

National University of Science and Technology Politehnica Bucharest – Faculty of Engineering in Foreign Languages (FILS)
B.Sc. in Electronics Engineering (2025 – Present)
Coursework: Embedded Systems, Circuit Design, IoT Development, Applied AI
Focused on practical research and real-time data systems with applications in sustainability and biomedical innovation.

Technical & Research Interests

Embedded Systems · IoT · Biomedical Engineering Applications · PCB Design · AI & Data Processing · Sensors & Actuators · Sustainable Hardware · Systems Integration

Selected Projects & Hackathons

Axes Hackathon – 1st Place (2023)
Developed an integrated web and hardware platform for urban air quality and traffic monitoring. Implemented ML algorithms optimizing traffic light intervals in real time, reducing congestion by up to 35% and emissions by 20%, while processing 100.000 daily data points for sustainability insights.

Qube2Space – 1st Place (2022)
Designed and built a fully functional PocketQube satellite capable of withstanding flight and atmospheric forces up to 9 km altitude. The 5 cm × 5 cm × 5 cm Cube integrated multiple environmental sensors for atmospheric pressure, 3-axis acceleration, ozone concentration, and weather prediction. All data was processed onboard using a custom embedded system and stored locally on a flash module for post-flight analysis.

Qube2Space – 4th Place (2023 & 2024)
Improved communication and onboard computing for data reliability during transmission.

The Bucharest Hackathon – 5th Place (2024)
Developed a custom hardware-based logistics system that scanned shipping labels and computed optimal delivery routes in real time, reducing fuel use by 15% and improving efficiency by 25%.

Technical Skills

Rapid Prototyping: KiCad, EasyEDA, Fusion 360

Data Analytics and Programming Languages: C/C++, Python, MATLAB, Java, TypeScript

Sensing and Monitoring Systems: Sensor systems, environmental modules

Low-power Microcontrollers: ESP32, STM32, RP2040, Arduino

Frontend Development: React, TailWind

Version Control: GitHub & Git (project collaboration, code management)

Automation & Scripting: Excel VBA (data processing), Bash

Languages:

English (Fluent), Romanian (Native)

Soft Skills

Teamwork: Boosted cross-functional IoT project efficiency by 20%. Leadership: Directed a 5-member prototype build under strict deadlines. Creativity: Enhanced performance by 30% through novel algorithms. Analytical: Resolved integration challenges, reducing downtime by 15%. Communication: Explained designs to non-technical audiences for alignment. Project Coordination: Delivered prototypes on time and within budget. Adaptability: Met changing requirements while maintaining quality.

Additional Insights

Led hardware and integration efforts across multiple projects, facilitating effective collaboration among software and design teams.
Contributions consistently prioritized functionality, optimization, and real-time validation, resulting in multiple awards and the development of fully functional prototypes.
Extensive hackathon and competition experience has provided practical exposure equivalent to industry standards in developing, testing, and presenting comprehensive engineering systems.