GABRIEL CHEVERESAN

JUNIOR ELECTRONICS ENGINEER | SYSTEM INTEGRATION FOCUS | MEASUREMENTS & TESTING EXPERTISE

CONTACTS

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Personal Portofolio Website

Zug, Switzerland

SKILLS

Programming languages

- Advance: C, C++
- Intermediate: Python, MATLAB
- Basic: Java, SQL, Bash

Tools

- Git
- Linux
- Autodesk Fusion 360
- Code Composer Studio
- Windsurf

Technical

- Embedded programming
- PCB Design
- Prototyping
- Automation & Robotics
- Measurements & Testing

Soft skills

- Problem-solving
- Communication
- Creativity
- Development
- Critical Thinking

LANGUAGES

ENGLISH — **Advanced**

GERMAN(COURSE) — **Intermediate**

ROMANIAN — **Native**

EDUCATION

Liceul Teoretic "Jean Louis" Calderon 2016 - 2020

Computer and Mathematics profile, French intensive.

Polytechnic University Timisoara 2020 - 2024

Bachelor's Degree in Electronic Engineering, specializing in Applied Electronics.

WORK EXPERIENCE

Diamond Apps AG Zug, Switzerland

Hardware/Software/IoT Engineer 01/2025 - Present

- *Remote robotics platform*: Built a **5-axis robotic arm** system for **remote users** via a **web UI** with a **backend control service** and **live video stream**. Enforced **5-minute sessions**. Ran **kinematics** and **motion planning** on a **backend VM** over **Tailscale**. Delivered an **end-to-end prototype** in **1 month**, using an **AI-assisted IDE**.
- *3D design and rapid manufacturing*: Designed functional **CAD** in **Autodesk Fusion 360** and produced parts with **resin printing** and **FDM printing**. Built a round **8-note harmonica** prototype.
- *Embedded bring-up and root-cause fixes*: Integrated an **ESP32** with a **5V addressable LED ring** and a shared **IR sensor** line. Stabilized the **5V rail** with **local ceramic decoupling** near **ESP32 supply pins**. Eliminated **IR signal loss** when ESP32 was off by **isolating** the split and validating behavior across **power states**.
- *Execution in a dynamic environment*: Built **27 prototype ESP32 boards** in **5 working days**, soldering **0604 passives** and completing **1500+ solder joints**. Supported fast shifts between **robotics**, **PCB work**, **stepper motors**, and **3D design** based on priorities.

HELLA Timisoara, Romania

Predevelopment/R&D Intern 01/2022 - 06/2023

- *R&D Prototyping*: Spearheaded 3D modelling (**Autodesk Fusion 360**), **MATLAB/Simulink** simulations, and PCB design for **DC converters**;
- *Embedded System Dev.*: Designed firmware for **microcontrollers**, debugged code (Code Composer Studio), optimized embedded software performance;
- *Cross-Functional Collaboration*: Partnered with hardware engineers to integrate **PCB** layouts and **embedded software**;
- *Testing & Validation*: Conducted performance testing, **firmware** optimization and troubleshooting for industrial-grade **embedded systems**;

PROJECT SHOWCASE

Development of applications used on a development system based on EFR32 wireless System-on-Chip (B.Sc. Thesis)

BLE embedded C development on Silicon Labs EFR32, sensor acquisition, IMU streaming, radio performance optimization.

Closed-Loop Buck Converter Control System

TI F28379D DSP firmware for power control using synchronized PWM-ADC and tuned PID, validated by 150+ tests.

High-Efficiency Automotive Buck Converter

Automotive 48V power system on F28379D, 40 dB EMC filter, 92% efficiency, protection, validated -40 to 125 C.

Autonomous Color-sorting Robotic Arm

Autonomous pick-and-place robot using Python, OpenCV, inverse kinematics, calibration, Raspberry Pi.