






# Antonio Bernardini

 [github.com/AntonioBerna](https://github.com/AntonioBerna)  [antonioberna.github.io](https://antonioberna.github.io)  [linkedin.com/in/antonioberna/](https://linkedin.com/in/antonioberna/)  
 [antoniobernardini@live.com](mailto:antoniobernardini@live.com)  (+39) 3338704611

## Education

---

Tor Vergata University	Rome, IT
<i>B.Sc. in Computer Engineering</i>	<i>2021 - Present</i>
I.I.S. Enzo Ferrari	Rome, IT
<i>Technical High School Diploma in Electronics</i>	<i>2016 - 2021</i>

## Experience

---

<u>Weigence</u>	Rome, IT
<i>CEO &amp; CTO</i>	<i>Present</i>

- Founded tech company offering integrated ERP solutions with optional IoT hardware for warehouse automation
- Architected modular platform with Django backend, Flutter mobile apps, PostgreSQL database, and ESP32 hardware with AI-powered parts recognition
- Secured CO.GE. Impianti S.r.l. as first commercial client with successful ERP deployment

<u>CO.GE. Impianti S.r.l. (via Weigence)</u>	Mentana (Rome), IT
<i>Strategic Consultant</i>	<i>July 2025 - January 2026</i>

- Implemented complete ERP system for warehouse management with software-only solution (client opted out of hardware integration)
- Deployed production infrastructure on cloud with containerized services and relational database
- Delivered cross-platform mobile applications for warehouse operations and inventory management

<u>VectorLab S.r.l.</u>	Genoa, IT (Remote)
<i>Web Developer &amp; Maintainer</i>	<i>July 2025 - October 2025</i>

- Developed interactive 3D web experiences using TypeScript and Three.js
- Implemented clean architecture with design patterns for maintainable codebase

<u>Open Source Contributions</u>	Remote
<i>Embedded Systems Libraries</i>	<i>Present</i>

- Contributed 5 PRs to Arduino ecosystem ([Modulino](#), [NTPClient](#), [ArduinoHttpClient](#))
- Enhanced ESP32 camera drivers in Espressif [esp32-camera](#) library

<u>CleverCode YouTube Channel</u>	Rome, IT
<i>Creator &amp; Educational Content Producer</i>	<i>2022 - Present</i>

- Built community of 1.5K+ subscribers with 1.7K monthly views through technical tutorials in Italian
- Popular series include [Embedded Rust on ESP32](#), and [Git & GitHub](#) comprehensive courses

## Projects

---

### Sudoku Solver | *C, Bitmasking, Backtracking*

- 3rd Place Tor Vergata Programming Challenge 2023 - Solves 9 sudoku puzzles in 637.9µs average using Bitmasking + Backtracking Algorithm
- Open Source Code: <https://github.com/AntonioBerna/sudoku-solver>

### ESP32 Spectrum Analyzer | *C++, ESP32, FFT, Signal Processing*

- Real-time spectrum analyzer using FFT (radix-2) algorithm implemented in C++ for ESP32
- Open Source Code: <https://github.com/AntonioBerna/spectrum-analyzer>

### Valkit | *Docker, Valgrind, Cross-Platform*

- Docker tool extending Valgrind to macOS with multi-architecture support (amd64/arm64) and glibc compatibility fixes
- Open Source Code: <https://github.com/AntonioBerna/valkit>

### Rubber Ducky | *Security Research, USB HID*

- Security research tool for USB HID attack simulation and penetration testing
- Open Source Code: <https://github.com/AntonioBerna/rubber-ducky>

### Finite State Machine Designer | *C, LaTeX, TikZ, Automata Theory*

- A minimal Finite State Machine Designer implemented in C that generates beautiful LaTeX visualizations with TikZ
- Open Source Code: <https://github.com/AntonioBerna/fsm>

### Neural Network Logic Gates | *Python, Raspberry Pi, Machine Learning*

- LED control system using neural networks to implement logic gates on Raspberry Pi
- Open Source Code: <https://github.com/AntonioBerna/nn-rpi-logic-gates>

## Technical Skills

---

Embedded & Firmware: Arduino, Raspberry Pi, ESP32, STM32, PlatformIO, ESP-IDF, LVGL, CUDA, Embedded Rust

Software Design & Architecture: Design Patterns, OOP, Clean Code, Clean Architecture, SOLID & DRY Principles

Software Development: Python, C, C++, Rust, Django, PostgreSQL, MongoDB, Assembly

Hardware Design: KiCAD, Digital, EasyEDA

Mobile Development: Flutter

Web Development: TypeScript, Three.js, GSAP

AI: Neural Networks, Machine Learning, Computer Vision

DevOps: Git, GitHub, Docker, Heroku, Linode, Google Cloud, Squarespace

Documentation & Teaching: Markdown,  $\LaTeX$ , TeXmacs, Excalidraw, OBS Studio, FFmpeg, Audacity