STEFANO NICOLIS

Embedded Systems Engineer

LINKS
Github
LinkedIn
Website
YouTube

PERSONAL INFO
stenicolis@gmail.com
+39 388 454 9268
Born 3rd of May 1999
Speaks italian, english

SKILLS

Embedded Software & Firmware
- C, C++, Python, Zephyr RTOS, embedded Linux, user-space applications, system programming, Yocto Linux
- Worked with nRF52, ATMega, USB, BLE, SPI, I2C, UART

Electronics & Hardware Design
- KiCAD 2-4 layers PCB design, manual assembly, high-manual dexterity and lab tools know-how
- 3D modeling and enclosure design using Fusion 360/Blender, both 3D printed and CNC-machined aluminum

WORK EXPERIENCE

Marelli motorsport — Embedded software engineer

Bologna, Italy January 2025 - present

Full responsibility for the development of a high-performance C/C++ AI inference API running inside Linux.. Using this 3-function interface, user processes can perform inference on the iMX8 CPU/GPU/NPU and an external Hailo8 PCI-e accelerator. The API supports the TensorFlow-Lite and the HailoRT inference frameworks. This required systems programming (usage of multithreading, semaphores, shared memory, etc) plus Yocto work to integrate everything in the company Linux image.

Iotinga SRL — Embedded systems engineer, part-time during my Msc

San Giovanni Lupatoto, Italy October 2021 - April 2022

Full responsibility for the design and bring-up of an IoT product prototype based on ESP32. Used KiCAD for the schematic drawing and PCB layout, parts ordering and manual assembly. Firmware in C based on the IDF framework.

EDUCATION

Msc Computer Engineering

University of Verona October 2021 - July 2024, 97/110

Thesis: developed an OPC-UA server in C# and a Companion Specification for SPEA PCB testing machines
Subjects: Control Theory, AI & ML, Embedded OSs, Material Science, Data Visualization, Semiconductors

Bsc Computer Science

University of Verona October 2018 - October 2021, 97/110

Thesis: analysis and visualization of a production line energy consumption suing Python, Kafka and InfluxDB
Subjects: C/Assembly/Java programming, Computer architectures, Data structures & Algorithms, Databases, Logic, Computer networks, Operative systems, Signal processing, Physics, Calculus, Linear algebra

PERSONAL PROJECTS

Optical Mouse

Independently designed from the ground up desktop mouse, based on a PixArt sensor and an nRF52 MCU. USB and BLE connectivity, battery powered. Selected and sourced the components, designed the 4-layer PCB with KiCad, modeled the 3D-printed case with Blender and Fusion360, written the firmware in C with the Zephyr-based nRF Connect SDK. Hand assembled and used daily for both office and gaming tasks.

Mechanical Keyboards

Made from scratch, high-end mechanical keyboards. Designed the aluminium body in Fusion360 and worked with a quality CNC manufacturer. Based on AVR MCUs, ISSI led drivers and the open source QMK firmware. Hand assembled. Used daily.

ABOUT ME

I'm a detail-oriented, deeply curious and self-critical person. I dabbled in calisthenics, powerlifting, running and tennis. I rode a bike for six years, which I maintained myself. I watch sci-fi movies, write poems and listen to a wide range of music. I'm a proud engineer and I take pride in being in a position where I get to understand and develop technology.