STEFANO NICOLIS

Embedded Systems Engineer

LINKS
Github
LinkedIn
Website
Vimeo

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

WORK EXPERIENCE

Marelli motorsport **Embedded software engineer**

Bologna, Italy January 2025 - present

Developed a high-performance, C/C++ API to enable user processes to perform inference on an ARM system. User processes use this 3-function interface to perform inference on four different hardware blocks. The API takes both TensorFlow Lite and HailoRT models. This required Linux systems programming (multithreading, semaphores, shared memory, etc) and 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

Designed a prototype for an IoT device based on ESP32 with KiCad: parts selection, schematic drawing, PCB layout, parts ordering and manual assembly. Developed an I2C driver in C with the IDF framework.

EDUCATION

Msc Computer Egineering

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. Enjoyed daily.

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. Enjoyed daily.

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 and Blender, both 3D printed and CNC-machined aluminum

ABOUT ME

I'm a detail-oriented, deeply curious, innerly emotional 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. My ultimate goal in life is to sustain myself, those around me and build a meaningful legacy.