

# Francesco Mignone



Turin

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 GitHub  
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## Programming Languages

C  
Assembly x86/RISC-V/ARM  
SQL

## HDL Languages& Tools

Verilog  
VHDL  
Verilog/SystemVerilog  
UVM  
Modelsim/QuestaSim  
Design Compiler  
Innovus  
Quartus Prime

## Scripting

TCL  
Bash/Shell

## Embedded Systems & Tools

FreeRTOS  
Arduino  
Raspberry Pi  
STM32

## Softwares

Docker  
KiCAD  
Arduino IDE  
GDB  
Git  
Linux

## Technical Skills

Soldering  
Logic Analyzers  
PCB design  
3D Printing & Design  
LaTeX

## Spoken Languages

Italian - Native  
English - C1 IELTS

For more information's on the projects or me visit my website!

## EDUCATION

2024 – Today

### Polytechnic University of Turin: Masters Degree in Embedded Systems

Turin

**Coursework:** Microelectronics Systems, Synthesis and Optimization of Digital Systems, Electronics for Embedded Systems, Specification and Simulation of Digital Systems, Software Engineering, Cybersecurity For Embedded Systems, Operating Systems for Embedded Systems, Computer Architectures (RISC)

**Currently Attending:** Energy Management for IoT, Embedded Architectures for AI and ML, Integrated System Architecture, Testing and Fault Tolerance, Electronic Systems Engineering

### University of Pisa: Bachelor Degree in Computer Engineering

Pisa

**Relevant Coursework:** Data Structures and Algorithms, Digital Logic Design, Computer Architectures (x86) and Kernel programming, Operating Systems, Electronic Circuits Analysis, Digital Electronics, Analog and Digital Communications, Computer Networks, Operations research, Automation Engineering

**Thesis:** Extension for VSCode to debug a multi-programmed Kernel

2017 – 2024

## PROJECTS

2025

### DLX Microprocessor

#### VHDL, Questasim, Design Compiler, Innovus

RTL Design, Simulation, Synthesis and Physical Design of a DLX Microprocessor

- Pipeline implementation: Control Unit and Datapath
- Subset of DLX ISA: Load, Store, Arithmetic, Logic, Branch and Jump instructions
- Developed custom scripts to automate the Simulation, Synthesis and Physical Design process

2025

### Verification Workshop

#### System Verilog, Questasim

Hands-on sessions of SystemVerilog and UVM for hardware design and verification to test basic designs

2025

### Low-Power Contest

#### TCL, Prime Time, Design Compiler

TCL script for post Synthesis analysis to optimize the leakage power of a design with a Multi- $V_{th}$  approach

2024 – Present

### GBA-SPI

#### KiCAD, RaspberryPi, Arduino

- Schematic and PCB design
- LiPo battery protection and charger circuit
- External custom cartridge modules via GPIO
- ATMega power handling and I<sup>2</sup>C communication with a RaspberryPi
- Custom RaspberryPi I<sup>2</sup>C Driver for the ATMega

2016

### 3D-Printer

I built a replica of a Prusa 3D printer from scraps running the Marlin Firmware.

## EXPERIENCES

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2017 Ed., 2023 Ed., 2024 Ed.

### GOLab+RustLab

 Firenze

### Go, Rust

International Go and Rust programming language conference.

### DEVFest

 Pisa

A general tech driven conference.

### Maker Faire

 Rome

A maker event conference.

2022 Ed.

2019 Ed.