Francesco **Mignone**

Turin

fmignone98@gmail.com

+39 331 905 9951

ilnerdchuck

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@ilnerdchuck

Programming Languages

C/C++
Assembly
Golang
SQL

HDL & Scripting Languages

Verilog
VHDL
SystemVerilog
UVM
TCL
Bash/Shell

Technical Skills

Soldering
Microsoldering
PCB Repair
Logic Analyzers
Digital Multimeter
Circuit design
3D Printing
FPGA development
Kernel developing
LaTeX

Softwares

Docker
KiCAD
Arduino IDE
Vivado
Modelsim/Questasim
Design Compiler
Innovus
Quartus Prime
GDB
SPICE
Arduino
Git
Linux
RaspberryPi

Languages

Italian - Native
English - C1

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)

2017 – 2024
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

Projects

2025
DLX Microprocessor
VHDL Modelsim Design Compiler Innovus
RTL Design, Simulation, Synthesis and Physical Design of a DLX Microprocessor

- Pipeline implementation: Contrul 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 - Present
Verification Workshop
System Verilog Questasim
Hands-on sessions of SystemVerilog and UVM for hardware design and verification to test basic designs and the previously mentioned DLX Processor

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-Vth approach

2024 – Present
GBA-SPi
KiCAD, RaspberryPi, Arduino

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

2016
3D-Printer
I built a replica of a Prusa 3D printer form scraps running the Marlin Firmware.

Experiences

2017 Ed., 2023 Ed., 2024 Ed.	**GOLab+RustLab** Firenze **Go, Rust** International Go and Rust programming language conference.
2022 Ed.	**DEVFest** Pisa A general tech driven conference.
2019 Ed.	**Maker Faire** Rome A maker event conference.