Tommaso Montedoro

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Biography

My name is Tommaso Montedoro, born in Turin on 11/10/2001. I am a final-year Master's student in Computer Engineering (Embedded Systems) at Politecnico di Torino, with a strong focus on real-time systems, microcontroller architectures, and embedded software development.

Education

Politecnic of Turin, MSc in Computer Engineering - Embedded Systems — Sept 2023 – current

- **Significant Course:** Computer Architecture, Operating Systems for Embedded Systems, Electronics for Embedded Systems, Cybersecurity for Embedded Systems.

Politecnic of Turin, BSc in Electronic and Telecomunication Engineering — Sept 2020 – Sept 2023

- 99/110

Work

Firmware Developer, Team ISAAC – Politecnico di Torino, Turin (Italy) — March 2024 – October 2024

- Reviewed and maintained the team's existing firmware to ensure reliability and performance
- Contributed to firmware development and communication protocol design for a thermal camera with an integrated GUI, used to operate the team's robot remote controller
- Managed and organized the team's hardware inventory

Projects

Pacman Videogame on Landtiger Board — github.com/tommymonte/

- Developed C firmware for the iconic Pacman game on a Landtiger board, enabling communication among various onboard peripherals.

Implemented S32K358 on QEMU — LPUART, GPIO, and Memory Mapping (ongoing)

- Developed LPUART and GPIO support for the unsupported S32K358 board on QEMU, including custom memory mapping and firmware development for multiple peripherals.

TPM 2.0 Simulation on QEMU — Command Chain and Cryptographic Module (ongoing)

- Designed and implemented a Trusted Platform Module (TPM 2.0) simulation on QEMU, focusing on command chain processing and cryptographic key management (asymmetric key generation, secure storage).

Energy-Efficient Systems and Power Management — github.com/tommymonte/

- Designed and implemented power management strategies for three IoT applications to optimize energy consumption and extend device lifetime.

Morse Code Emulation on STM32L496VETx — github.com/tommymonte/

- Developed firmware for the STM32L496VETx MCU.

Technologies

Languages: C, C++, Python, Bash, VHDL, SystemC, MIPS Assembly, ARM Assembly, JavaScript

Technologies: FreeRTOS, MATLAB, Keil, QEMU, QuestaSim, Synopsys, ModelSim, GNU/Linux, STM32CubeIDE, NXP Design Studio, GemV, RiscV

Certifications

IELTS 6.0 — May 2023
Corso GNU/Linux Avanzato e Tecnologie Aperte — May 2025

Extracurricular Work

Laboratory Collaborator, Politecnico di Torino, Turin (Italy)

- Assisted students in troubleshooting hardware and software issues when using lab computers

Swimming Instructor, Rari Nantes Torino – Turin, Italy — Sept 2021 – Present

- Conduct swimming lessons for children aged 3 and up, as well as for adult learners