

# Antonio Lotti Villar

Junior Systems Electronics Engineer

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## RESUME

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**Electronics enthusiast** with a deep professional interest in **embedded systems development**, especially in the area of **firmware development**. Some experience with technologies such as **ARM microcontrollers, RTOS systems, Threads, Process, IoT and FPGAs**. Proactive engineer, committed to continuous learning and adaptation to new methodologies and tools.

## EDUCATION

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- **Polytechnic University of Madrid (UPM)** Madrid, Spain  
*Master's degree in electronic systems engineering* Sep. 2023 – Act
- **Alfonso X The Wwise university (UAX)** Madrid, Spain  
*Degree in Industrial and Automatic Electronic Engineering* Sep. 2019 – July. 2023

## EXPERIENCE

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- **Capgemini S.A.** Madrid, Spain  
*Junior System Engineer* July 2024 – Act
  - **Development Projects:** Embedded systems development projects with clients such as Airbus and Indra
- **Indra Systems, SA** Madrid, Spain  
*Laboratory Technician* Feb. 2023 – Feb. 2024
  - **Microcontrollers:** Optimization the programming of PIC microcontrollers.
  - **Hardware Testing:** Responsible for the assembly, testing, and implementation of various hardware components.

## PROJECTS

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- **Embedded Systems Projects – Master's Program:** Designed and implemented embedded systems solutions using the STM32F411 DISCOVERY board, focusing on finite-state machines, sensor integration, and real-time task management with FreeRTOS.
- **Finite State Machine (FSM) Library Testing with Ceedling:** Developed and tested a Finite State Machine (FSM) library in C using Ceedling, ensuring robustness through unit testing and automated validation.
- **Virtual Control of a Robotic Arm:** Developed a simulation environment for controlling a five-degree-of-freedom robotic arm, enabling motion testing before physical implementation. Applied skills in robotic kinematics, MATLAB programming, Arduino communication, and automation system design.

## SKILLS

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- **Programming Languages::** C, C++, Python, Matlab, Java, Javascript
- **Tools:** GDB, GCC, Git, Unity(testing), Ceedling(testing), Eclipse, VS Code, Altiumn, Multisim, LTspice

## RESOURCES

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- **Languages::** English, Spanish
- **Citizenship's::** Spanish; American (USA); Italian