Manuel Alò

Researcher in Mechatronics & Robotics

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LinkedIn / ORCID



Researcher in the Mechatronic Systems Laboratory at SUPSI-ISEA, working on applied research with industrial partners. I design, simulate and implement algorithms for high-precision control, robotic motion, computer vision and position measurement, connecting mathematical models with embedded systems and experimental validation.

EXPERIENCE

Researcher

2022-present | SUPSI, Lugano, Switzerland

- Develop real-time control frameworks for robotic arms, including kinematics and haptic-feedback applications.
- Create self-calibrating algorithms for absolute magnetic position sensors.
- Design computer vision systems for industrial inspection.
- Coordinate technical activities in industrial research projects.

Research Assistant

2018-2022 | SUPSI, Lugano, Switzerland

- Developed control systems for power converters and industrial drives.
- Implemented embedded firmware for sensor acquisition, processing and real-time control.
- Modeled systems and performed hardware-in-the-loop validation for power and measurement applications.

Trainee

2013-2014 | Ghiringhelli, Luino, Italy

- Programmed PLCs in AWL.
- Designed electrical schematics and carried out electrical installation work.
- Designed mechanical components.
- Developed graphical user interface software.

Trainee

2013 | IMF sro, Sedlčany, Czech Republic

- Programmed PLCs in Ladder logic.
- Installed and configured industrial machines.
- Applied problem-solving skills to technical issues.

EDUCATION

MSc in Industrial Technologies

2017-2020 | SUPSI, Manno, Switzerland

BSc in Electronic Engineering

2014-2017 | SUPSI, Manno, Switzerland

Industrial Technical Expert

2009-2014 | ITIS, Luino, Italy

TECHNICAL SKILLS

Control & modeling

High-precision control / System modeling / MATLAB & Simulink / Hardware-in-the-loop validation

Sensing & implementation

Position measurement / Computer vision / Embedded firmware / Data acquisition & analysis / CAN & EtherCAT

Programming

C / C# / Python / MATLAB

Additional programming

PHP, HTML, Java, VHDL, AWL, Visual Basic

RECOGNITION

Chaudoire scholarship

Awarded by SUPSI to support Master of Science studies.

TalenThesis 2017

Award for the Bachelor's thesis in Electronic Engineering.

LANGUAGES

Italian / English / Spanish