Luigi Muratore

About Me

I am passionate about robotics and research. I describe myself as a curious, autonomous, responsible, and flexible person. I am extroverted and enjoy working in teams. I have a strong interest in design and technology, and in my free time, I love playing basketball and bass guitar.

Contact

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LinkedIn

GitHub

YouTube

Hard skills

- **MATLAB/Simulink**
- Robot Operating System :
  - **ROS, ROS2**
- Simulation environments:
  - **Rviz, Gazebo, MuJoCo**
- Electronics boards:
  - **Raspberry pi, Arduino**
- Programming languages:
  - **C, Python, HTML, CSS, JavaScript**
- 3D Software:
  - **SolidWorks, Fusion360, Inventor, Catia**
- 3D Printing:
  - **Cura**
- PLC Programming:
  - **TIA Portal (Siemens), Automation Studio, FluidSim, CODESYS**
- Editing video:
  - **DaVinci, Filmora, HitFilm**
- Suite **Office, Latex**

Language skills

- **Italian:** Native language
- **English**: B2 First - Cambridge English

International Experience

- **Erasmus** 15/01/2019 - 30/01/2019
  - I.I.E.S. Mattei - Piatra Neamt - Romania
- **Erasmus** 15/03/2018 - 30/03/2018
  - I.I.E.S. Mattei - Oxford - Regno unito

Education

(2023 - Still attending)

POLITECNICO DI TORINO

Master's Degree in Mechatronics engineering

- **Control Technologies for industry 4.0**
  - Automatic control
  - Digital control technologies and architectures
  - Electronic systems for mechatronics
  - Model-based software design
  - Modelling and simulation of mechatronic systems
  - Fluid Automation
  - Electronics Fundamentals and Applications
  - Robotics
  - Convex optimization and engineering applications
  - Robot Learning
  - Laboratory of robust identification and control
  - Automation and planning of production systems
  - Optimization for machine learning

(2020 - 2023)

POLITECNICO DI TORINO

Bachelor's Degree in Mechanical engineering

Thesis:

- Scalmalloy alloy, A20X alloy produced via Laser Powder Bed Fusion
  - Descrizione delle leghe e del processo produttivo tramite Additive Manufacturing

(2015 - 2020)

I.I.S. MATTEI - VASTO

Mechanical, Mechatronics and energy

Score: 100/100

Projects

- **Autonomous rover with Reinforcement Learning and CV**
  - Autonomous mobile robot with Proximal-Policy-Optimization Reinforcement Learning algorithm, mecanum wheels, proximity sensors, LiDAR and Computer Vision with YOLO algorithm
- **Anthropomorphic robot manipulator**
  - 5DoF manipulator, 3D printed, simulated on Rviz and MoveIt, controlled by Raspberry Pi and ROS2
- **Cartesian robot with laser module**
  - 3DoF CNC model based with Laser, controlled by an Arduino with G-code
- **Bionic hand controlled by EGM interface**
  - Bionic hand 3D printed, controlled by Arduino with EGM sensors.
- **Team RoboTO**
  - Mechanical Design department
- **PoliTO Challenge**
  - Challenge of Politecnico di Torino of Model Based Control Design course, in collaboration with Mathworks and FEV
- **Lunar Rover Payload Challenge**
  - Design of a Payload breadboard to be mounted and tested on the Lunar Rover prototype, in collaboration with Thales Alenia Space
- **Hackathon**
  - Risk assessment of Reale Mutua with IA
- **AESAthon**:
  - Space debris removal and In-Orbit servicing