

# Giorgia Romano

Biorobotics Engineering Student

## About Me

I am a passionate and dedicated Master's student in **Bionics Engineering**, specializing in **Biorobotics**, with a background in Biomedical Systems Engineering.

My interests lie in **soft robotics**, **biomechanical prosthetics**, and **computer vision systems**.

I am driven by the challenge of developing bio-inspired solutions that enhance human life by merging innovation, biology, and engineering.

## Contact



## Tech skills and softwares

- Programming Languages: Python, C++, MATLAB
- CAD software: Fusion360, Solidworks
- Simulation software: Ansys, COMSOL Multiphysics
- Real time systems and FPGA: LabView
- Data Mining: Jupyter Notebook

## Language

- Italian (native)
- English (C1 level)

## Education

### Master's degree: Biorobotics Engineering

September 2024–now

*Sant'Anna School of Advanced Studies /  
University of Pisa joint degree*

- Developed an EMG-controlled active prosthetic hand: designed electronic circuitry, programmed STM32 microcontroller, and implemented signal processing algorithms in MATLAB.
- Project on Human Pose Estimation with Vicon and Mediapipe motion capture systems.
- Project on Audio source localization via neuromorphic implementation of the Jeffress model with LabVIEW interface.

### Bachelor degree: Biomedical Systems Engineering - 110L/110

2020–2023

*Polytechnic of Bari, Bari*

- My **bachelor thesis** focuses on the analysis of risk indices in Manual Material Handling (MMH) through real-time **human pose estimation** using **computer vision** and **machine learning** techniques.

## Experience

### Research Intern: Surgical Robotics and Allied Technologies Area

March 2025–now

*Biorobotics Institute, Pontedera*

- Design and prototyping of a **soft gripper** actuated by **magnetic fields**, developed for minimally invasive surgical tasks.
- Gained hands-on experience working in **polymer** and **magnetics laboratories**.

### Research Intern: Naps lab

2023 – 2024

*Naps Lab, Bari*

- Development and test of algorithms for **kinematic analysis** and the implementation of visual biofeedback systems to support self-assessment of movement.
- **European research project "AI4NightWorkers"**, aimed at developing an AI-driven system to monitor and assess health risks associated with Shift Work Sleep Disorder (SWD) in night-shift workers.

## Personal experience

### Volunteer – Erasmus Student Network (ESN)

2023–now

*Bari, Pisa*

- Helped organize cultural events, language exchange activities, and integration initiatives to promote intercultural understanding and student mobility.
- Head of the **"Environmental and Sustainability"** Committee.