

FRANCESCO IORI

Ph.D. Student @ BRAIRLab, Biorobotics Institute, Sant'Anna School of Advanced Studies

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github.com/fraiori0

WORK EXPERIENCE

Ph.D. Student in Biorobotics

Biorobotics Institute - Sant'Anna School of Advanced Studies

📅 Oct 2021 - [pres](#)

📍 Pisa, Italy

Research Assistant

Biorobotics Institute - Sant'Anna School of Advanced Studies

📅 Oct 2020 - Set 2021

📍 Pisa, Italy

Project: Machine learning algorithms for robot-human object handover.

Teaching Assistant

Sant'Anna School of Advanced Studies - University of Pisa

📅 Oct 2020 - [pres](#)

📍 Pisa, Italy

- Supervision of student projects for the course of Robotics, Master's Degree in Computer Science, University of Pisa.
- Seminar on "Robot control with ROS", for the course on Robotics for Assisted Living, Master's Degree in Bionics Engineering, University of Pisa.

Visiting student

Integrum AB & Chalmers University of Technology

📅 Jul 2020 - Sep 2020

📍 Goteborg, Sweden

Design, prototyping, and testing of a new prosthesis coupling system for trans-radial osseo-integrated abutments.

EDUCATION

II-level Master's Degree - Industrial and Information Engineering

Sant'Anna School of Advanced Studies

📅 Oct 2018 - Dec 2020

📍 Pisa, Italy

Awarded after 5 years as Honor Student in the School's excellence program. Admission through highly-selective test (mean acceptance rate <4%). Requirements to obtain the degree include keeping a GPA>3.9 in both Bachelor's and Master's Degree and following extra Ph.D.-level courses and projects.

Thesis: *Robot to Human Handover: Generation of approach trajectories with Dynamic Movement Primitives* @ Biorobotics Institute, Pisa, Italy

M.Sc. Robotics and Automation Engineering

University of Pisa

📅 Oct 2018 - Jul 2020

📍 Pisa, Italy

Grade: 110/110 cum laude

Thesis: *From swimming to land locomotion: Gait analysis and development of a simulation framework to understand Polypterus Sen. terrestrial locomotion* @ EPFL Biorobotic Laboratory, Lausanne, Switzerland

B.Sc. Mechanical Engineering

University of Pisa

📅 Oct 2014 - May 2018

📍 Pisa, Italy

Grade: 110/110 cum laude

SCIENTIFIC PUBLICATIONS

DMP-based Reactive Robot-to-Human Handover in Perturbed Scenarios, International Journal of Social Robotics, *accepted*

AI for HRI: Learning From Human Preferences And Intentions For Smooth And Adaptive Handover @ Italian Conference on Artificial Intelligence (ITAL-IA), 2022

DMP-based Perturbed Handover with Preferential Learning @ Machine Learning for Motion Planning (MLMP) Workshop, ICRA 2021

PROJECTS

Master's Degree 2019-2020

- Locomotion control of a hopper through Hybrid Zero Dynamics and a SLIP-embedding controller
- Adaptive quadcopter control with quaternion-based modeling and a backstepping algorithm
- Comparison of Machine Learning algorithms for classification and regression tasks: NN, SVM and Random Forest

MBZIRC 2020 Drone Challenge 2019

Division of Control and Trajectory Planning, SSSUP MBIZIRC Team

Hardware design and testing for the development of a crawling robot for pipe inspection Mar 2017 - Jun 2017

Soft Robotics Group, Biorobotic Institute, Sant'Anna School of Advanced Studies

SKILLS

ROS, Gazebo, PyBullet ●●●●●●

Python ●●●●●●

PyTorch, Scikit-Learn ●●●●●●

Wolfram Mathematica ●●●●●●

Matlab, SIMULINK ●●●●●●

C, C++, Keras ●●●●●●

Solidworks ●●●●●●

Ansys WB, Creo ●●●●●●

Inventor ●●●●●●

LANGUAGES

Italian: Mother Tongue

English: Proficient

German: Basic