



Mattia Penzotti

About me:

MSc in Mechanical Engineering, PhD student at Scuola Superiore Sant'Anna,
Artificial Hands Area.

WORK EXPERIENCE

05/2021 – 09/2022

RESEARCH FELLOW ARTIFICIAL HANDS AREA – SCUOLA SUPERIORE SANT'ANNA

Algorithm development for safe and reliable human-robot physical interaction for collaborative robotics.

Development of high-sensible, environmental noise-robust, contact detection algorithm in the context of robot-to-human handover with static passer, development of dynamics-robust contact detection algorithm in the context of robot-to-human handover with dynamic passer, preliminary tests within the ROS framework and a real robotic platform with UR manipulators and Prensilia Mia Hand antropomorphic gripper.

04/2021 – 07/2021

PROJECT BASED EMPLOYEE – POLITECNICO DI MILANO

Deployment of methods and tools from the Master's Thesis Intern

Drafting of user manual for the final user interface and post processing tools, drafting report of methods for powders SPH modelling and of results from all the performed simulations, software deployment, final exchange and feedback with the commissioning company R&D team.

04/2020 – 03/2021

MASTER'S THESIS INTERN – UNIVERSITY OF PARMA

CFD modelling and optimization of a powder industrial mixer

Simulations with Smoothed Particles Hydrodynamics, postprocessing with custom C++ and VTK modules for mixing quality evaluation, Python UI customization, CAD modification of machine rotor and evaluation of different layouts, regular progress presentation to commissioning company R&D team.

EDUCATION AND TRAINING

10/2022 – CURRENT

PHD STUDENT IN BIOROBOTICS – Scuola Superiore Sant'Anna

09/2018 – 03/2021

MASTER'S DEGREE IN MECHANICAL ENGINEERING – University of Parma

● **DIGITAL SKILLS**

My Digital Skills

Hardware

Universal Robots | OnRobot F/T Sensor | Robotiq F/T Sensor | Prensilia Mia Hand

Programming

Python | C++ | C | CMake | Git | VTK

CAE/Software

MATLAB | COMSOL Multi-Physics | Simscape | FreeCAD | SolidWorks | ParaView | Hypermesh (FEM) | Simulink | Amesim | ROS (MoveIt, Gazebo, RVIZ) | DualSPHysics | KISSsoft

Others

Microsoft Office | LaTeX

● **LANGUAGE SKILLS**

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user