

Gennaro Raiola

Curriculum Vitae

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Education

- 01/2017- *Post-Doc*
current at ADVR-DLS, Istituto Italiano di Tecnologia (IIT), Genova, Italy.
🌐 [www.](#)
- 03/2017- *Post-Doc*
07/2017 at Robotics and Mechatronics group, University of Twente, Enschede, The Netherlands. 🌐 [www.](#)
- 2016-2017 *Ph.D. student in Robotics*
at CEA-List (French Alternative Energies and Atomic Energy Commission), Gif-sur-Yvette, France. 🌐 [www.](#)
- 2014-2015 *Ph.D. student in Robotics*
at INRIA - Flowers / ENSTA-ParisTech, Palaiseau, France. 🌐 [www.](#)
- 2010-2012 *Master's Degree (M.Sc) with honor in Automation and Control Engineering*
given by the University of Naples "Federico II", Naples, Italy.
- 2006-2010 *Bachelor's Degree (B.Sc) in Computer Engineering*
given by the University of Naples "Federico II", Naples, Italy.

Profession

- 2012-2013 *Research Engineer in Motion Control of Humanoid Robots*
at PAL Robotics S.L., Barcelona, Spain. 🌐 [www.](#)

Research

- Post-doc Energy based control strategies for collaborative robots
Keywords: Safety in robotics, Impedance Control, Collaborative robotics.
- Ph.D. Thesis "Co-manipulation with a library of Virtual Guides"
Supervisors: Prof. Freek Stulp (ENSTA-ParisTech), Dr. Xavier Lamy (CEA-List).
Keywords: Collaborative robotics, Industrial applications, Controls, Machine Learning.












M.Sc. Thesis "Learning Parameterized Skills through Models with Expanded Kernels"
Supervisors: Prof. Bruno Siciliano (PRISMA lab.) and Prof. Freek Stulp (ENSTA-ParisTech).
Keywords: Motion Primitives, Machine Learning.

Technical Skills and Software projects

Technical Skills





Programming C/C++, Python, MATLAB, ROS, Orocos, Qt, Boost, RTAI/Xenomai, Eigen, php (Basics)
Systems/Tools Linux/Ubuntu, CMake, Latex, QtCreator, Gazebo, Eclipse, git, svn, Virtual-Box, Docker (Basics), EtherCAT (Basics)
Hardware Arduino

Software projects

Software "ros-control" 
Ros packages to make controllers generic to all robots.
Software "virtual-fixtures"   
Library of virtual guides for co-manipulation.
Software "mekabot" 
Meka robot packages.
Software "m3ros-control" 
C++ bridge to integrate the control layer of the Meka robot into a ROS environment.
Software "DmpBbo"   
C++ framework for motion primitives and black-box optimization.
Software "Stack-of-Task"  
Integration of the stack of tasks inverse kinematics solver on the Reem-H and Reem-C robots at PAL Robotics.

Publications

- 2017 **Gennaro Raiola**, Carlos Cardenas Alberto, Tadele Shiferaw Tadele, Theo De "Development of a Safety-Aware Intrinsically Passive Controller for Collaborative Robots".
Under review in *IEEE Robotics and Automation Letters*.
- 2017 **Gennaro Raiola**, Susana Sanchez Restrepo, Pauline Chevalier, et al.
"Co-manipulation with a Library of Virtual Guiding Fixtures".
In *Autonomous Robots, Special Issue on Learning for Human-Robot Collaboration*.

- 2017 Pauline Chevalier, **Gennaro Raiola**, Brice Isableu, Jean-Claude Martin, Christophe Bazile and Adriana Tapus.
 "Do Sensory Preferences of Children with Autism Impact an Imitation Task with a Robot?".
 In *Conference on Human-Robot Interaction (HRI)*.
- 2017 Susana Sanchez Restrepo, **Gennaro Raiola**, Pauline Chevalier, Xavier Lamy, and Daniel Sidobre.
 "Iterative Virtual Guides Programming for Human-Robot Comanipulation".
 In *IEEE International Conference on Advanced Intelligent Mechatronics (AIM)*.
- 2015 **Gennaro Raiola**, Xavier Lamy, and Freek Stulp.
 "Co-manipulation with Multiple Probabilistic Virtual Guides". 
 In *International Conference on Intelligent Robots and Systems (IROS)*.
- 2015 **Gennaro Raiola**, Pedro Rodriguez-Ayerbe, Xavier Lamy, Sami Tliba, and Freek Stulp.
 "Parallel Guiding Virtual Fixtures: Control and Stability". 
 In *IEEE Multi-Conference on Systems and Control (MSC)*.
- 2014 Freek Stulp, Laura Herlant, Antoine Hoarau, and **Gennaro Raiola**.
 "Simultaneous On-line Discovery and Improvement of Robotic Skill". 
 In *International Conference on Intelligent Robots and Systems (IROS)*.
- 2013 Freek Stulp, **Gennaro Raiola**, Antoine Hoarau, Serena Ivaldi, and Olivier Sigaud.
 "Learning Compact Parameterized Skills with a Single Regression". 
 In *IEEE-RAS International Conference on Humanoid Robots*.

Service

- Open-source Maintainer of ros-control packages.
- Research Reviewer for international conferences and journals:
- Autonomous Robots (Springer).
 - The International Conference on Robotics and Automation (ICRA).
 - IEEE-RAS International Conference on Humanoid Robots.
 - International Conference on Intelligent Robots and Systems (IROS).

Languages

- italian native proficiency
- english professional working proficiency
- french limited working proficiency
- spanish basic knowledge