Gennaro Raiola

Curriculum Vitae

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Education

2017-current	*Post-Doc* at ADVR-DLS, Istituto Italiano di Tecnologia (IIT), Genova, Italy. 🌐 www.
03/2017-08/2017	*Post-Doc* at Robotics and Mechatronics group, University of Twente, Enschede, The Netherlands. 🌐 www.
2014-2016	*Ph.D. student in Robotics* at CEA-List (French Alternative Energies and Atomic Energy Commission - Laboratory for Integration of Systems and Technology), Gif-sur-Yvette, 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.

Profession

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

Research Interests

Controls, Software Engineering, Machine Learning, Motion Primitives, Collaborative robotics.

Selected Software projects

- "ros-control"
  Ros packages to make controllers generic to all robots.
- "virtual-fixtures"
  Library of virtual guides for co-manipulation.
- "mekabot"
  Meka robot packages.
- "m3ros-control"
  C++ bridge to integrate the control layer of the Meka robot into a ROS environment.

- ○ "DmpBbo" ⭕ ⭔ ⭔

  C++ framework for motion primitives and black-box optimization.

- ○ "Stack-of-Task" ⭕ ⭔

  Integration of the stack of tasks inverse kinematics solver on the Reem-H and Reem-C robots at PAL Robotics.

▬▬▬ Publications

Journals

2017 **Gennaro Raiola**, Carlos Cardenas Alberto, Tadele Shiferaw Tadele, Theo De Vries, Stefano Stramigioli.
"Development of a Safety and Energy Aware Impedance Controller for Collaborative Robots".
In *IEEE Robotics and Automation Letters.*
The contents of this paper were also selected by ICRA'18 Program Committee for presentation at the Conference.

2017 S. Chitta, E. Marder-Eppstein, W. Meeussen, V. Pradeep, A. Rodriguez Tsouroukdissian, J. Bohren, D. Coleman, B. Magyar, **G. Raiola**, M. Ludtke and E. Perdomo Fernandez.
"ros_control: A generic and simple control framework for ROS".
In *The Journal of Open Source Software.*

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.*

Conferences

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 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