

Gennaro Raiola

Curriculum Vitae

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Education

- 2017-current *Post-Doc*
at Robotics and Mechatronics group, University of Twente
🌐 [www.](#)
- 2016-2017 *Ph.D. student in Robotics*
at CEA-List (French Alternative Energies and Atomic Energy Commission)
🌐 [www.](#)
- 2014-2015 *Ph.D. student in Robotics*
at INRIA - Flowers / ENSTA-ParisTech 🌐 [www.](#)
- 2010-2012 *Master's Degree (M.Sc) with honor in Automation and Control Engineering*
given by the University of Naples "Federico II".
- 2006-2010 *Bachelor's Degree (B.Sc) in Computer Engineering*
given by the University of Naples "Federico II".

Profession

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

Research












- Post-doc *Energy based control strategies for prosthetics*
Supervisors: Prof. Stefano Stramigioli.
Topics: Controls, Passivity.
- Ph.D. Thesis *"Co-manipulation with a library of Virtual Guides"*
Supervisors: Prof. Freek Stulp (ENSTA-ParisTech), Dr. Xavier Lamy (CEA-List).
Topics: Cobotics, 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).
Topics: 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**, 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

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

References

- Dr. Freek Stulp Head of Department 
 Department of Cognitive Robotics Institute of Robotics and Mechatronics
 DLR - German Aerospace Center (Previously ENSTA-ParisTech)
- Dr. Xavier Lamy Research Engineer 
 Laboratory of interactive robotics at CEA-LIST

Dr. Adolfo Senior Robotics Engineer 
Rodriguez Intermodalics (Previously PAL Robotics)
Tsouroukdissian