

# Gennaro Raiola

## Curriculum Vitae

### Education

- 2016-current *Ph.D. student in Robotics*  
at CEA-List (French Alternative Energies and Atomic Energy Commission)  
🌐 [www](#).
- 2014-2015 *Ph.D. student in Robotics*  
at Robotics and Computer Vision Lab - 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

- Ph.D. Thesis "Probabilistic virtual guides for co-manipulation"  
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, ROS, MATLAB, php, Qt, Gazebo, Boost, RTAI, Eigen  
Systems/Tools Linux/Ubuntu, CMake, Latex, QtCreator, Eclipse, git, svn  
Hardware Arduino

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## Software projects

- 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.

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## Publications

- 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 Options".  
In *International Conference on Intelligent Robots and Systems (IROS)*.
- 2013 Freek Stulp, Gennaro Raiola, Antoine Hoarau, Serena Ivaldi, and Olivier Sigaud.  
"Compact Parameterized Skills with a Single Regression".  
In *IEEE-RAS International Conference on Humanoid Robots*.

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## Service

Reviewer for international conferences:

- IEEE-RAS International Conference on Humanoid Robots.
- IEEE Multi-Conference on Systems and Control (MSC).
- IEEE International Conference on Robotics and Automation (ICRA).
- International Conference on Intelligent Robots and Systems (IROS).

## Languages

italian native proficiency  
english professional working proficiency  
french limited working proficiency