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" <u>Supervisors</u>: Prof. Freek Stulp (ENSTA-ParisTech), Dr. Xavier Lamy (CEA-List). <u>Topics</u>: Cobotics, Industrial applications, Controls, Machine Learning.
M.Sc. Thesis	"Learning Parameterized Skills through Models with Expanded Kernels" <u>Supervisors</u>: Prof. Bruno Siciliano (PRISMA lab.) and Prof. Freek Stulp (ENSTA-ParisTech). <u>Topics</u>: 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

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.

Publications

2017	Susana Sanchez Restrepo, Gennaro Raiola, Pauline Chevalier, Xavier Lamy, and Daniel Sidobre. "Iterative Virtual Guides Programming for Comanipulation Robots". Under Review for *The International Conference on Robotics and Automation (ICRA).*
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

Reviewer for international conferences:
- 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

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 Rodriguez Tsouroukdissian	Senior Robotics Engineer ✉ Intermodalics (Previously PAL Robotics)