

PERSONAL INFORMATION

Marina Raineri

WORK EXPERIENCE

March 2020 - Today

Postdoctoral Research in Control and Automation Engineering

University of Parma - Department of Engineering and Architecture
Parco Area delle Scienze, 181/A, Italy

Research Topics Development, control and trajectory planning of a lower limb exoskeleton, the whole system is controlled through three Raspberry Pi driven by a real-time OS, Xenomai.

November 2016 - March 2020

PhD Student

University of Parma - Department of Engineering and Architecture
Parco Area delle Scienze, 181/A, Italy

Research Topics Control and optimal trajectory planning for robotic systems under kinematic and dynamic constraints. Considered systems: anthropomorphic manipulators and Laser Guided Vehicles.

April 2016 - October 2016

Research Grant

University of Parma - Department of Engineering and Architecture
Parco Area delle Scienze, 181/A, Italy

Title Management of Kinematic Singularities for Anthropomorphic Manipulators

June 2015

Students Tutor

University of Parma - Department of Engineering and Architecture
Parco Area delle Scienze, 181/A, Italy

Supervision and support for students who develop the required Python programs

EDUCATION AND TRAINING

October 2013 - March 2016

Master Degree in Computer Engineering

University of Parma - Department of Engineering and Architecture

Courses Dynamics and Control of Robotic Systems, Nonlinear Systems, Control Systems Theory, Operational Research, Robotics, Computer Vision, Artificial Intelligence, Network Security, Information Systems, Real-Time Operating Systems, Automation Systems, Distributed Systems

Thesis Management of Kinematic Singularities for Anthropomorphic Manipulators

Final Mark 110/110 with honors

October 2010 - October 2013

Bachelor Degree in Computer Engineering

University of Parma - Department of Engineering and Architecture

Thesis Multipoint Trajectory Planning through Linear-Quadratic Curves

Final Mark 107/110

PERSONAL SKILLS

Mother tongue Italian

Other languages	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
French	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Digital competences	SELF-ASSESSMENT				
	Information Processing	Communication	Content creation	Safety	Problem solving
	Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital competences - Self-assessment grid

Computer skills - Programming Languages: C, C++, Java, Python, Matlab, HTML, MySQL, Php
 - Operating System: Windows and GNU/Linux (Debian, Ubuntu for computer and Xenomai for Raspberry Pi)

ADDITIONAL INFORMATION

Publications

M. Raineri, C. Guarino Lo Bianco, M. Locatelli, and S. Perri. A real-time strategy for the management of kinematic singularities: new progresses. In *Int. Conf. on Meth. and Models in Autom. and Rob., (MMAR16)*, Międzyzdroje, Poland, Aug. - Sept. 2016

C. Guarino Lo Bianco and M. Raineri. An automatic system for the avoidance of wrist singularities in anthropomorphic manipulators. In *IEEE Int. Conf. Automat. Sci. and Eng., (CASE17)*, pages 1302-1309, Xi'an, China, Aug 2017

M. Raineri, S. Perri, and C. Guarino Lo Bianco. Online velocity planner for Laser Guided Vehicles subject to safety constraints. In *IEEE/RSJ Int. Conf. Intell. Robots and Syst., (IROS17)*, pages 6178-6184, Vancouver, Canada, Sept 2017

M. Raineri, S. Perri, and C. Guarino Lo Bianco. Safety and efficiency management in LGV operated warehouses. *Rob. and Comp.-Integ. Manuf.*, 57:73-85, 2019

C. Guarino Lo Bianco and M. Raineri. An experimentally validated technique for the real-time management of wrist singularities in nonredundant anthropomorphic manipulators. *IEEE Transactions on Control Systems Technology*, pages 1-10, 2019

M. Raineri and C. Guarino Lo Bianco. An automatic system for the avoidance of wrist singularities in anthropomorphic manipulators. In *IEEE Int. Conf. Automat. Sci. and Eng., (CASE17)*, pages 1611-1617, Vancouver, Canada, Aug 2019

Marina Raineri, Fabio Ronchini, Simone Perri, and Corrado Guarino Lo Bianco. *Optimality Criteria for the Path Planning of Autonomous Industrial Vehicles*, pages 125-140. Springer International Publishing, Cham, January 2020

M. Raineri, R. Monica, and C. Guarino Lo Bianco. A real-time 3d reconstruction of staircases for rehabilitative exoskeletons. *IEEE Trans. on Medical Robot. and Bionics*, 3(1):220-229, 2021