

curriculum vitae



PERSONAL INFORMATION

Surname	Lazzaroni
Name	Maria
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Nationality	Italian
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Date of birth	01/06/1991
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Education and training

• Date (from – to)	March 2014 – December 2016
• Name and type of organisation providing education and training	Politecnico di Milano
Duration of the program of study	2 years
• Principal subjects/occupational skills covered	Main knowledges: <ul style="list-style-type: none">• technologies for sensors and clinical instrumentation;• biomedical signals and images processing;• functional assessment and rehabilitation principles.
• Title of qualification awarded	Master's Degree in Biomedical Engineering - Technologies for electronics
Final mark obtained	109/110

• Date (from – to)	September 2010 – February 2014
• Name and type of organisation providing education and training	Politecnico di Milano
Duration of the program of study	3 years
• Principal subjects/occupational skills covered	Main knowledges: <ul style="list-style-type: none">• fundamentals of mechanics, automatic control and electronics;• fundamentals of chemistry, biology and physiology;• basic signals processing and programming.
• Title of qualification awarded	Bachelor's Degree in Biomedical Engineering
Final mark obtained	95/110

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• Date (from – to)	September 2005 – July 2010
• Name and type of organisation providing education and training	Liceo Scientifico Nicolo Copernico.
Duration of the program of study	5 years
• Title of qualification awarded	Secondary School Diploma
Final mark obtained	86/100

Graduation thesis

Title	Human dynamics estimation during physical human-robot interaction
Language	English
Supervisor	Prof.ssa Elena De Momi Dott. Francesco Nori Dott.ssa Claudia Latella
Thesis Summary	Physical human-robot interaction has recently aroused growing interest among the scientific community. In this context, the control of the robot should be designed in order to guarantee a safe interaction with the human and could be improved by adding human dynamics as a feedback to robot controllers. The aim of this thesis is to propose a computational framework for the estimation of whole-body human dynamics by means of sensors fusion. The sensing systems included in our framework are: a full-body wearable suit provided with inertial sensors, force plates and a robot equipped with force/torque sensors. In order to test the proposed framework, an experimental investigation is conducted. As a result, it is possible to state that it allows to perform inverse dynamics in experiments conducted to analyze physical human-robot interaction. Its robustness with respect to modelling errors represents a unique feature in comparison with state-of-the-art methods for inverse dynamic computation.

Publications and articles submitted

Author(s) and title	Human Whole-Body Inverse Dynamics during Human-Robot Interaction - Claudia Latella, Maria Lazzaroni, Marta Lorenzini and Francesco Nori
Language	English
Publication place	Humanoids 2016, Cancun, Mexico - Workshop on Human Performance and Robotics
Date of publication	2016

Author(s) and title	
Language	English
Publication place	
Date of publication	

Author(s) and title	Computational improvement in human dynamics estimation algorithm - Maria Lazzaroni and Marta Lorenzini
Language	English
Publication place	5 th International Symposium on Sensor Science 2017, Barcelona, Spain - Poster Exhibition (Pending Publication)
Date of publication	2017

Certifications

English C1	ETS-TOEIC
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Work experience, Internships, studies abroad

• Date (from – to)	January 2017 – April 2017
• Name and address of firm/university	Istituto Italiano di Tecnologia (IIT)
• Type of business or sector	Robotics - CoDyCo European Project
• Type of employment	Internship
• Main activities and responsibilities	Design and develop of visualization tools for the real-time estimates of joint position, joint torques and external force-torques for physical human-robot interaction experiments

• Date (from – to)	May 2017 - Present
• Name and address of firm/university	Politecnico di Milano and Istituto Italiano di Tecnologia (IIT)
• Type of business or sector	Advanced Robotics
• Type of employment	PhD Student

Personal skills and competences

Acquired in the course of life and career but not necessarily evidenced by formal certificates and diplomas.

Native language	Italian
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Other language(s)

	English
• reading	Excellent
• writing	Very good
• speaking	Good

Social skills and competences

Living and working with other people, in multicultural environments, in positions where communication is important and situations where teamwork is essential (e.g. Culture and sports), etc.

Good communication skills and good team work skills, also in heterogeneous and international working groups developed during the university experience and the thesis work; ethical behaviour, sociable in interpersonal situation, have self-management and professionalism.

Organisational skills and competences

E.g. coordination and management of people, projects and budgets; at work, in voluntary work (e.g. culture and sports) and at home, etc.

Able to work independently including planning and executing activities with minimum supervision; good multi-tasking and organizational abilities; good attention to detail and ability to prioritize work and meet deadlines.

Technical skills and competences

With computers, specific kinds of equipment, machinery, etc.

Experience in the redaction of technical texts developed during the internship experience and the thesis work.

Computer skills:

Operating systems: Windows (excellent knowledge), Linux, ROS (good knowledge);

Programming languages: Matlab (excellent knowledge), C/C++(good knowledge);

Typesetting systems: LaTeX (excellent knowledge);

Software suite: Microsoft Office (excellent knowledge).

Artistic skills and competences

Music, writing, drawing etc.

Keen reader and interested in cinema

Other skills and competences

Sports: Skiing, tennis, bicycling, running.

Competences not mentioned above.	
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