Europass Curriculum Vitae

Personal information

First name(s) / Surname(s)	**Matteo Moro**
Address(es)	
Telephone(s)	
E-mail	
Nationality	
Date of birth	11th July 1994
Gender	

Work experience

Dates	From 11/2018 -- now
Name and type of organisation	**University of Genova** and **Machine Learning Genoa Center (MaLGa)** – PhD Student in Computer Science
Principal subjects	Computer Vision, Rehabilitation Engineering, Machine Learning and Deep Learning
Project abstact	Measuring and understanding human motion is an essential task in several domains, ranging from neuroscience to rehabilitation and sports biomechanics. Quantitative information is fundamental to study how our Central Nervous System controls and organizes movements, as well as to evaluate performance and deficits. Recently, this field has made important progress. In the motor control and clinical field, the technology that provide useful and accurate quantitative measures is based on marker systems. However, markers are intrusive, their number and location are determined a priori, and they can modify the naturalness of subjects' movements. Last, they are computationally expensive in time and space. For these reasons would be important to find out a robust and reliable markerless system that allow extracting quantitative information about human motion. The focus will be on markerless gait analysis.
	In this project we propose to study alternatives that do not rely on the use of markers, by applying recent approaches to motion analysis in RGB videos via neural networks. The study will start from already existing architectures, which we will use as a reference point for the realization of more specific algorithms.

Peer Reviewd Publications	-) Moro, M., Marchesi, G., Hesse, F., Odone, F., & Casadio, M. (2022). Markerless vs. Marker-Based Gait Analysis: A Proof of Concept Study. Sensors, 22(5), 2011. -) Garbarino, D., Moro, M., Tacchino, C., Moretti, P., Casadio, M., Odone, F., & Barla, A. (2021, November). Attributed Graphettes-Based Preterm Infants Motion Analysis. In International Conference on Complex Networks and Their Applications (pp. 82-93). Springer, Cham. -) Moro, M., Casadio, M., Mrotek, L.A., Ranganathan, R., Scheidt, R. and Odone, F., 2021, September. On The Precision Of Markerless 3d Semantic Features: An Experimental Study On Violin Playing. In 2021 IEEE International Conference on Image Processing (ICIP) (pp. 2733-2737). IEEE. -) Garello, L., Moro, M., Tacchino, C., Campone, F., Durand, P., Blanchi, I., Moretti, P., Casadio, M., Odone, F. (2021). A Study of At-term and Preterm Infants' Motion Based on Marker-less Video Analysis.In 2021 29th European Signal Processing Conference (EUSIPCO) (pp. 1196-1200). IEEE. -) Petracca, M., Cutter, G., Cocozza, S., Freeman, L., Kangarlu, J., Margoni, M., Moro, M., Krieger, S., El Mendili, M.M., Droby, A. and Wolinsky, J.S., (2021). Cerebellar pathology and disability worsening in relapsing-remitting multiple sclerosis: A retrospective analysis from the CombiRx trial. European journal of neurology. -) Moro, M., Rizzoglio, F., Odone, F., & Casadio, M. (2021 January). A Video-Based MarkerLess Body Machine Interface: A Pilot Study. In Pattern Recognition. ICPR International Workshops and Challenges: Virtual Event, January 10–15, 2021, Proceedings, Part II (pp. 233-240). Springer International Publishing. -) Petracca, M., El Mendili, M.M., Moro, M., Cocozza, S., Podranski, K., Fleysher, L. and Inglese, M., 2020. Laminar analysis of the cortical T1/T2-weighted ratio at 7T. Neurology-Neuroimmunology Neuroinflammation, 7(6). -) Noceti, N., Odone, F., Marsella, A., Moro, M., & Nicora, E. (2020, July). Tangible Coding for kids with AI inside. In Adjunct Publication of the 28th ACM Conference on User Modeling, Adaptation and Personalization (pp. 163-166). -) Moro, M., Marchesi, G., Odone, F. and Casadio, M., 2020, March. Markerless gait analysis in stroke survivors based on computer vision and deep learning: a pilot study. In Proceedings of the 35th Annual ACM Symposium on Applied Computing (pp. 2097-2104).
Dates	From 03/2021 to 07/2021 From 03/2022 – now
Occupation or position held	Tutor Fundamentals of Signal and Image Processing
Name and address of employer	University of Genova
Main activities and responsibilities	Support Professor Francesca Odone during the practice lessons of Fundamentals of Signal and Image Processing at third year of Computer Science (bacherol)
Dates	From 03/2022 – now
Occupation or position held	Tutor Computational Vision
Name and address of employer	University of Genova
Main activities and responsibilities	Support Professor Francesca Odone during the practice lessons of Computational Vision at first year of Master in Computer Science (master)
Dates	From 03/2019 to 07/2019 From 10/2019 to 07/2020
Occupation or position held	Tutor Fundamentals of Computer Science
Name and address of employer	University of Genova
Main activities and responsibilities	Support Professor Patrizia Boccacci during the practice lessons of Fundamentals of Computer Science at first year of Biomedical Engineering (bacherol)
Dates	From 10/2019 to 02/2020 From 10/2020 to 02/2021
Occupation or position held	Tutor Introduction to Programming
Name and address of employer	University of Genova
Main activities and responsibilities	Support Professor Francesca Odone during the practice lessons of Introduction to Programming at first year of Computer Science (bacherol)

Dates	From 02/2017 to 02/2018
Occupation or position held	Part-time work ("150 hours")
Name and address of employer	University of Genova
Main activities and responsibilities	Tutor of FUNDAMENTALS OF COMPUTER SCIENCE (with Professor Patrizia Boccacci) - Organization of some activity for FUNDAMENTALS OF BIOMEDICAL INSTRUMENTATION (with Professor Roberto Raiteri)
Dates	From 10/2015 to 05/2016 From 10/2017 to 02/2018 From 10/2018 to 07/2019 From 10/2019 to 04/2020 From 10/2020 to 04/2021 From 10/2021 – now
Occupation or position held	Tutor
Name and address of employer	University of Genova
Main activities and responsibilities	Help students at the first year with exams and organization of stage and activities
Dates	From 2015 to 2018
Occupation or position held	Student Representative
Name and address of employer	University of Genova
Main activities and responsibilities	Student Representative for Biomedical Engineering and for DIBRIS department
Dates	From 06/2011 to 09/2011 From 06/2012 to 09/2012 From 06/2013 to 09/2013 From 06/2014 to 09/2014
Occupation or position held	Lifeguard
Name and address of employer	T.S.G. srl – Bolle Blu swimmingpool – Borghetto di Borbera (Alessandria)

Education and training

Dates	02/2020
Title of qualification awarded	Passed the State Exam in Information Engineering
Dates	From 09/2016 to 10/2018
Title of qualification awarded	Master doctor in Bioengineering -- 110 cum laude / 110
	I did my Master Thesis project (March 2018 – August 2018) in the Neurological Lab at Icahn School of Medicine at Mount Sinai in New York City, with Professor Matilde Inglese and Professor Maura Casadio. Tiltle: "Implementation of a new MR-based pipeline to quantify myelin content across cortical layers".
Principal subjects	Exams: Bionanotechnology, Molecular Cellular and Tissue Engineering, Neuroengineering and Neurotechnologies, Perceptual Systems and Interactions, Biomedical Instrumentation and Bioimaging, Chemistry and Biochemistry, Mathematical Methods for Engineers, Analysis of Biomedical Data and Signals, Biomedical Image Processing, Computational Neuroscienze, Neuromorphic Computing and Integrative Cognitive Ststems, Rehabilitation Engineering, Biomedical Robotics
Name and type of organisation providing education and training	University of Genova – Neuroengineering and bio-ICT Thesis at Icahn School of medicine at Mount Sinai, New York City

Dates	From 09/2016 to 10/2018
Principal subjects	Additional Seminars and lesson, base knowledge of: Marketing, Business Operation, Communication, Biotechnologies, Climate Changes, Big Data and Cloud, Quantum Physics
Name and type of organisation providing education and training	IANUA-ISSUGE (Higher Educational Institution of University of Genova)
Dates	From 09/2013 to 07/2016
Title of qualification awarded	Doctor in Biomedical Engineering -- 110 cum laude / 110
	I did my thesis project (April 2016 – July 2016) at the Italian Institute of Technology (IIT) in Alberto Diaspro's laboratory: Molecular Microscopy and Spectroscopy
Principal subjects	Exams: mathematical analysis, chemistry, digital systems electronics, fundamentals of computer science, general physics, geometry, English language, bioelectronics, electrical communications, mathematical physics, systems' theory, electric and magnetic fields, materials science and technology, circuits theory, fundamentals of biomedical instrumentation, physiology, automatic control, fundamentals of biomedical data and signal analysis, medical informatics, medical informatics laboratory, fundamentals of solid mechanics and fluid, fundamentals of biomechanics
Name and type of organisation providing education and training	University of Genova - Biomedical Engineering Thesis at the Italian Institute of Technology (IIT), Genova
Dates	From 09/2013 to 07/2016
Title of qualification awarded	ISICT Diploma
Principal subjects	Additional Seminars lesson and exams. Basic knowledge of: Marketing, Business Operation, Communication and others
Name and type of organisation providing education and training	ISICT (Higher Educational Institution of Informatics and Communication Technologies) – University of Genova
Dates	From 09/2008 to 06/2013
Title of qualification awarded	High School Diploma - Liceo Scientifico Bilingue - 100/100
Name and type of organisation providing education and training	Liceo "Edoardo Amaldi", Novi Ligure (AL)

Internship Experiences	March 2018 – August 2018 → Neurological Department at Icahn School of Medicine at Mount Sinai in New York City, with Professor Matilde Inglese May 2016 – July 2016 → Molecular Microscopy and Spectroscopy Department at Italian Institute of Technology (IIT) with Giuseppe Vicidomini

Personal skills and competences	
Mother tongue(s)	**Italian**
Other language(s)	**English (First exam)** **French (DELF B2)**

Self-assessment	Understanding		Speaking		Writing
European level (*)	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
French	B2	B2	B2	B2	B2

(*) Common European Framework of Reference for Languages

Computer skills and competences	Program languages: MATLAB, Python, C++, C, C# (basic knowledge) Office

Artistic skills and competences	Piano School "Alfredo Casella" in Novi Ligure (2009-2012)
Other competences	Lifeguard's license
	Swimming instructor license
	I followed for one year the lessons of a basic German course
Driving license	Car Driving license (B)