

PERSONAL INFORMATION

Christian Tamantini



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Gender Male | Date of birth 25 December 1993 | Nationality Italian

EMPLOYMENT

May 2024 – Present

Fixed-Term Researcher, Planning and Scheduling Technology Lab

ISTC – CNR, Rome, Italy

- Design and implementation of cognitive architectures for personalized, plan-based rehabilitation with real-time multimodal feedback.
- Development of user-state estimation algorithms (facial emotion recognition, workload, kinematics) for adaptive and user-centered robot behavior.
- Design, execution, and validation of Human-Robot Interaction (HRI) experiments with healthy subjects and patients, integrating multimodal perception and adaptive control.

SUMMARY OF RELEVANT EXPERIENCE

Over 6 years of research experience in Robotics and Human-Robot Interaction (HRI), with a Ph.D. focused on user-state estimation and adaptive robotic systems. Proven expertise in image processing, computer vision, and multimodal perception for context-aware and user-tailored robotic interaction control. Skilled in ROS-based development (Python, C++, Java) for robot-aided rehabilitation and assistive applications.

EDUCATION AND TRAINING

2019 – 2022

Doctor of Philosophy in Science and Engineering for Humans and the Environments: Curriculum Bioengineering (ING-IND/34)

- Thesis title: *"User State Estimation Methods for Tailoring Human-Robot Interaction"*
- The thesis proposes innovative methods to improve robot-assisted rehabilitation and worker health, including adapted control strategies and the use of wearable sensors. It also explores the positive impact of collaborative robots and wearable passive exoskeletons, providing innovative solutions in contexts such as industry and COVID centers.
- Supervisor: Prof. Loredana Zollo - CREO Lab, Università Campus Bio-Medico di Roma
Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy

2020

State certification to practice as an engineer

Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy

2019 – 2020

Postgraduate Advanced School in Artificial Intelligence

- The School is dedicated to training specialized professionals and researchers in AI, particularly deep neural networks, and computational modeling of the brain, behavior, and society. While not exhaustive in covering all AI topics, these areas serve as a foundational focus, building on the core competencies of the supporting research and professional network.
- Main Courses: Machine Learning, Deep Learning, Computer Vision
ISTC Roma 1 (sede centrale) Via Giandomenico Romagnosi 18a, 00196, Roma (RM), Italy

2016 – 2018

M.Sc. in Biomedical Engineering (LM-21)

- Thesis Title: *"Trajectory Planning of working tasks and control of an anthropomorphic manipulator with the integrated use of DMP and RGB-D camera"*
 - Mark 110/110 cum laude
 - This thesis proposes a robotic rehabilitation system for patients with musculoskeletal disorders in working environments. Using an RGB-D camera and an anthropomorphic manipulator, modules were developed to estimate the pose of objects, plan trajectories, and create a database of working gestures.
 - Supervisor: Prof. Loredana Zollo - CREO Lab, Università Campus Bio-Medico di Roma
 - Co-Supervisors: Eng. Francesca Cordella and Eng. Clemente Lauretti - CREO Lab, Università Campus Bio-Medico di Roma
- Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy

2012 – 2016 B.Sc. in Medical Engineering (L-9)

- Mark 102/110
- University of Tor Vergata, Via Cracovia, 50, 00133, Rome (RM), Italy

2006 – 2012 High school leaving qualification in scientific studies

- Mark 82/100
- Scientific High School "Paolo Ruffini", Piazza Dante Alighieri, 13, 01100, Viterbo (VT), Italy

WORKING EXPERIENCE

May 2024 – current Fixed Term Researcher

I am responsible for developing and validating automatic systems for motor and cognitive rehabilitation using social robotic systems. This involves the creation of a cognitive architecture for the planning of customized exercise programmes and the provision of real-time feedback.

ISTC - CNR, Via Giandomenico Romagnosi 18a, 00196, Roma (RM), Italy

Feb 2023 – May 2024 Postdoctoral Research Fellow

I have been awarded a research grant to conduct a research collaboration on the **"SPINE4.0: Development of an innovative, multi-disciplinary and integrated approach for workers suffering from degenerative pathologies of the lumbar spine based on advanced technologies, capacity building and feasibility analysis for the creation of a reference center for prevention, diagnosis, treatment and reintegration into work"** project with the Advanced Robotics and Human-Centred Technologies (CREO Lab)

Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy

2023 Expert Reviewer of research projects for Hungarian National Research Development and Innovation Office, Hungary

Nov 2019 – Nov 2022 Ph.D. Scholarship

I have been awarded a scholarship to pursue my **Ph.D. program in Science and Engineering for Humans and the Environments**: Curriculum Bioengineering (ING-IND/34), XXXV Cycle - A.Y. 2019-2020, at Università Campus Bio-Medico di Roma.

Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy

Jan 2019 – Feb 2023 Collaboration contracts

Research collaboration with the Advanced Robotics and Human-Centred Technologies (CREO Lab) on the following research projects:

- Nov 2022 – Feb 2023 **ODIN**: Leveraging AI based technology to transform the future of health care delivery in Leading Hospitals in Europe
- Sep 2019 – Oct 2019 **SENSE-RISC**: Development of instrumented suits for prevention and mitigation of workers' safety risks

- Jul 2019 – Aug 2019 **SAFE-MOVER**: User-centred design of a robotic device for improving working conditions and user subjective perspective during patient-handling movements
- Feb 2019 – Jun 2019 **RehabRobo@work**: Bio-cooperative robotic system for upper-limb rehabilitation in working environments
- Jan 2019 **SIRASI**: Robotic system for upper and lower limb rehabilitation
Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy

FOREIGN EXPERIENCES

Jun 2022 – Nov 2022 Visiting student

- Participation at the Kuka Innovation Award 2022 with the "SAFER" Team, video at [YouTube](#).
- *Role*: development of user state estimation algorithms to predict the active level of participation of healthy subjects undergoing robot-aided rehabilitation sessions.
- Supervisor: Prof. Bram Vanderborght.
Vrije Universiteit Brussel, Bd de la Plaine, 2, 1050, Brussel (BRU), Belgium

EDUCATIONAL ACTIVITIES

- Lecturer *"Cyber Physical-Robotics"*, 2nd year, MSc in Intelligent Systems Engineering
- A.Y. 23/24 2/9 CFU
- Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy
- "Python, Basic programming tools (Anaconda, Colab)"*, Advanced School in Artificial Intelligence, ISTC - CNR since the 7th edition
- ISTC Roma 1 (sede centrale) Via Giandomenico Romagnosi 18a, 00196, Roma (RM), Italy
- "AI Lab: ML vs deep network for motion perception"*, Advanced School in Artificial Intelligence, ISTC - CNR since the 2nd edition
- ISTC Roma 1 (sede centrale) Via Giandomenico Romagnosi 18a, 00196, Roma (RM), Italy
- Modulo didattico di "Programmazione e Controllo di Robot" nell'ambito del Corso "Tecnico Superiore per l'automazione ed i Sistemi mecatronici Specialista per la transizione Digitale dell'industria Chimico-Farmaceutica" presso la Fondazione ITS Meccatronico del Lazio
- Fondazione ITS Meccatronico del Lazio, Via del Plebiscito, 15, 03100, Frosinone (FR), Italy
- Teaching assistant *"Industrial and Medical Robotics"*, 1st year, MSc in Biomedical Engineering
- A.Y. 25/26, 5/15 CFU
 - A.Y. 24/25, 5/15 CFU
 - A.Y. 23/24, 8/15 CFU
 - A.Y. 22/23, 7.5/15 CFU
 - A.Y. 21/22, 7.5/15 CFU
 - A.Y. 20/21, 6/15 CFU
 - A.Y. 19/20, 3/15 CFU
- "Bioengineering and biomechanics of Human Motions"*, 2nd year, MSc in Biomedical Engineering
- A.Y. 23/24, 4/6 CFU
 - A.Y. 22/23, 5/6 CFU
 - A.Y. 21/22, 5/6 CFU
 - A.Y. 20/21, 3/6 CFU
- Università Campus Bio-Medico di Roma, Via Álvaro del Portillo, 21, 00128, Rome (RM), Italy
- Other
- Co-supervisor of:
 - 2 Ph.D. enrolled in the National PhD in Artificial Intelligence, XXXVIII-bis cycle, course on Health and life sciences, organized by Università Campus Bio-Medico di Roma
 - 14 Bachelor theses in Industrial Engineering at Università Campus Bio-Medico di Roma, Rome, Italy.
 - 13 Master theses in Biomedical Engineering at Università Campus Bio-Medico di Roma, Rome, Italy.
 - 1 Master theses in Computer Science at Università Federico II di Napoli, Naples, Italy.
 - Personal Tutoring Activity: supporting 1st and 2nd year industrial engineering students in managing their University experience at Università Campus Bio-Medico di Roma, Rome, Italy.

SKILLS AND COMPETENCES

Technical Skills

- Extensive experience in Human-Robot Interaction (HRI) experiments, including multimodal data acquisition and analysis (physiological, visual, and kinematic), and in the design of real-time classification and user-state estimation algorithms for adaptive and user-tailored robot behavior.
- Proficient in image processing and computer vision for gesture, facial expression, action, and object recognition using OpenCV, MediaPipe, and deep learning frameworks.
- Advanced programming skills in Python, Java, MATLAB, C#, and HTML, with practical experience in robotic middleware such as ROS and KUKA Sunrise.OS.
- Expertise in robot interfacing, planning, and control for various robotic platforms (Kuka LWR 4+, Kuka LBR Med, TIAGo).
- Experience in data acquisition, sensor integration, and post-processing pipelines for robotic and rehabilitation systems.
- Skilled in the development of Virtual Reality environments for rehabilitation and training applications using Unity (C#).

Soft Skills

- **Teaching:** Experience instructing students through engaging lessons.
- **Keenly Curious:** Exhibits a keen curiosity, consistently seeking to broaden knowledge and explore new concepts.
- **Problem-Solving:** Demonstrated ability to tackle complex challenges through critical analysis and finding innovative solutions.
- **Team Working:** Effective collaboration with colleagues during academic and professional projects.
- **Motivation:** Ability to inspire and motivate others towards goal achievement.
- **Flexibility:** Adaptation to changing needs and priorities in a dynamic environment.
- **Perseverance:** Unwavering commitment and persistence in overcoming obstacles and challenges.
- **Cross-functional communication:** Demonstrated proficiency in effectively communicating with professionals spanning diverse fields, including clinical staff such as surgeons, doctors, and physiotherapists, as well as technical experts and end-users of the technology (i.e., patients).

Languages

Mother tongue Italian

Other languages

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2

JOURNAL AND CONFERENCE SERVICE

Editorial Roles

Review Editor on the Editorial Board of Biomedical Robotics, specialty section of Frontiers in Robotics and AI.

Guest Editor of Special Issue

Topic Coordinator of the Research Topic on *Advancements in AI-driven Multimodal Interfaces for Robot-Aided Rehabilitation* on Frontiers on Robotics and AI, Frontiers on Big Data, and Frontiers on Artificial Intelligence Journals.

Guest Editor of the Special Issue on *Artificial Intelligence and Intelligent Robots: Challenges and Opportunities* on Applied Sciences MDPI.

Conference Chair Roles	<p>Member of the Organizing Committee of the <i>Robotics and Emerging Technologies in Rehabilitation: The Robot as a Tool for Both Assessment and Personalized Intervention</i> workshop held in conjunction with the Italian Institute of Robotics and Intelligent Machines 3D Conference (I-RIM 2025).</p> <p>Member of the Local Organizing Committee of the <i>14th Forum of Italian Ambient Assisted Living (FortAAL 2025)</i>.</p> <p>Member of the Organizing Committee of the <i>Workshop on Social Robotics for Human-Centered Assistive and Rehabilitation AI</i> held in conjunction with the ICSR 2025 international conference.</p> <p>Program Chair of the <i>Workshop on Advanced AI Methods and Interfaces for Human-Centered Assistive and Rehabilitation Robotics (a Fit4MedRob event)</i> - AlxIA 2024</p> <p>Program Chair of the <i>ALTRUIST 4th Workshop on "social roboTs for peRsonalized, continUous and adaptIve aSsisTance"</i></p> <p>Program Chair of the <i>AlxIA 2024 (23rd International Conference of the Italian Association for Artificial Intelligence)</i></p> <p>Travel Grant Chair of the <i>AlxIA 2024 (23rd International Conference of the Italian Association for Artificial Intelligence)</i></p> <p>Member of the Local Organizing Committee of the <i>Sixth Italian Conference on Robotics and Intelligent Machines</i></p>
Reviewer for International Journals	<p>IEEE Transaction on Human-Machine Systems, IEEE Sensors Journal, IEEE Robotics and Automation Letters, IEEE Transactions on Vehicular Technology, IEEE Transactions on Medical Robotics and Bionics, IEEE Access, IEEE Transaction on Haptics, IEEE Transaction on Robotics, Frontiers in Neurorobotics, Frontiers in Robotics and AI, Frontiers in Computer Science, Frontiers in Bioengineering and Biotechnology, Frontiers in Rehabilitation Sciences, Applied Bionics and Biomechanics, International Journal of Advanced Robotic Systems, Prosthetics and Orthotics International, Computer Methods in Biomechanics and Biomedical Engineering, Scientific Reports, SN Applied Sciences, Disability and Rehabilitation: Assistive Technology, MDPI Future Internet, MDPI Life, MDPI Robotics, MDPI Electronics, MDPI Machines, MDPI Applied Sciences, MDPI Clocks & Sleep, MDPI Sensors, MDPI Multimodal Technologies and Interaction, MDPI Algorithms, MDPI Actuators, MDPI Mathematics, MDPI Journal of Low Power Electronics, MDPI Applications, MDPI International Journal of Environmental Research and Public Health, MDPI Healthcare, MDPI Aerospace</p>
Reviewer for International Conferences	<p>IEEE International Conference on Robotics and Automation, IEEE International Conference on Robot & Human Interactive Communication, IEEE International Symposium on Safety, Security, and Rescue Robotics, Sensors and Application Conference 2020, IEEE International Workshop On Metrology for Industry 4.0 & IoT, International Conference of the IEEE Engineering in Medicine and Biology Society, International Conference of the Italian Association for Artificial Intelligence, International Conference on Social Robotics</p>
Reviewer for National Conferences	<p>Congresso Nazionale di Bioingegneria (GNB), Italian Conference on Robotics and Intelligent Machines (I-RIM).</p>
Member of Scientific Societies	<ul style="list-style-type: none"> – Member of the IEEE, IEEE Robotics and Automation Society, since 2019 – National Group of Bioengineering (GNB), since 2019 – Italian Institute of Robotics and Intelligent Machines (I-RIM), 2020 – Italian Association for Artificial Intelligence (AlxIA), since 2024

ATTENDED CONFERENCES

- Oral presentation at conference
- Oral presentation at the International Conference on Social Robotics + AI (ICSR+AI 25) of the paper "A Multimodal Emotion Recognition Approach for Socially Assistive Robots", 11/09/2025.
 - Oral presentation at the International Conference on Robot and Human Interactive Communication (RO-MAN 2025) conference of the paper "Enhancing Adaptive Robotic Coaches with Multimodal Workload Estimation", 26/08/2025.
 - Oral presentation at the *Workshop on Advanced AI Methods and Interfaces for Human-Centered Assistive and Rehabilitation Robotics (a Fit4MedRob event)* held in parallel with the International Conference of the Italian Association for Artificial Intelligence (AIxIA 2024) of the paper "Leveraging Multimodal Monitoring in Plan-Based Robot-Aided Rehabilitation", 27/11/2024.
 - Oral presentation at the main track of the International Conference of the Italian Association for Artificial Intelligence (AIxIA 2024) of the paper "REPAIR Platform: Robot-AidEd Person-Allzed Rehabilitation", 27/11/2024.
 - Speaker at the "Rehabilitative and Assistive Robotics Research in Italy: The Fit4Medical Robotics Initiative" Workshop, in the framework of the Sixth Italian Conference on Robotics and Intelligent Machines (I-RIM 2024), "Fostering Behavior Change through Cognitive Social Robotics", 25/10/2024.
 - Oral presentation at the ASIMOV workshop Adaptive Social Interaction and MOVement for assistive and rehabilitation robotics, in the framework of the International Conference on Social Robotics (ICSR 2022) of the paper "Psychophysiological Assessment during Upper-Limb Robot-Aided Rehabilitation in Patients with Musculoskeletal Disorders", 12/11/2022.
 - Oral presentation at the National Congress of the Italian Society of Ergonomics and Human Factors of the paper "Ergonomic evaluation of working gestures through an optoelectronic system", 04/05/2022.
 - Oral presentation at the International Conference on Intelligent Robots and Systems (IROS 2021) of the paper "A robotic health-care assistant for COVID-19 emergency", 28/09/2021.
 - Oral presentation at the Congress of the National Group of Bioengineering (GNB 2020) of the paper "A Dataset of DMPs for robot motion planning", 11/06/2021.
 - Oral presentation at the IEEE MetroInd4.0&IoT conference of the paper "Analysis of Physiological Parameters and Workload during Working Tasks in COVID-19 Pandemic Conditions", 08/06/2021.
 - Oral presentation at the Italian Institute of Robotics and Intelligent Machines 3D Conference (I-RIM 2020) conference of the papers "Combined use of DMP and real objects in robot-aided rehabilitation" and "A Robotic Assistant for Logistics and Disinfection in Health Centers", 11/12/2020.
 - Oral presentation at the International Conference on NeuroRehabilitation (ICNR) conference of the paper "A robot-aided rehabilitation platform for occupational therapy with real objects", 16/10/2020.
 - Oral presentation at the BAILAR Behavior Adaptation, Interaction and Learning for Assistive Robotics workshop, in the framework of the International Conference on Robot and Human Interactive Communication (RO-MAN) of the paper "A robot-aided rehabilitation system based on the combined use of Dynamic Motion Primitives and RGB-D camera", 03/09/2020.

- Chair at conference
- Chair of the "*Medical Robots and Systems*" session at the IROS conference, 09/28/2021.

BIBLIOMETRICS

Web Of Science	– Documents: 37	Citations: 256	h-index: 10
Scopus	– Documents: 45	Citations: 335	h-index: 12
ResearchGate	– Documents: 60	Citations: 394	h-index: 12
Google Scholar	– Documents: 59	Citations: 462	h-index: 14

PROJECTS PARTICIPATION

Fit4MedRob: Fit for medical robotics: 44 mesi per rivoluzionare i modelli assistivi e riabilitativi (Project funded by the Italian Ministry of Research, under the complementary actions to the NRRP, PNC0000007)

Role: design and development of intelligent rehabilitation robots for personalized treatment delivery, with a particular emphasis on reactive adaptation to the patient's state and long-term personalization.

SPINE4.0: Development of an innovative, multi-disciplinary and integrated approach for workers suffering from degenerative pathologies of the lumbar spine based on advanced technologies, capacity building and feasibility analysis for the creation of a reference center for prevention, diagnosis, treatment and reintegration into work. (Project funded by National Institute for Insurance against Accidents at Work, CUP: C85F21001020001)

Role: Reproduction of working scenarios through a virtual reality system and mechatronic and sensory technologies to generate modular loads to assess patients and workers suffering from low back pain.

ODIN: Leveraging AI based technology to transform the future of health care delivery in Leading Hospitals in Europe (Project Founded by European Union's Horizon 2020 Research and Innovation Programme, CUP: C85F21000670006)

Role: Development and validation of vision systems for patient posture recognition for monitoring meal consumption and joint mobilization activity of upper and lower limbs.

HeAL9000: Healthcare Agents and Learning robots (Project Founded by Regione Lazio, CUP: B84I20001880002))

Role: Design of interaction modalities for a collaborative robot to provide patients with robot-aided rehabilitation treatment. I implemented a monitoring system to retrieve the complete user state regarding facial expression, psychophysiological state, and kinematics performance.

EXPERIENCE: Benchmarking Exoskeleton-Assisted Gait Based on Users' Subjective Perspective and Experience (Open Call of the EU-funded project EUROBENCH H2020 ICT-2016-2017-779963)

Role: Design of a methodology to assess psychophysiological indicators of patients during exoskeleton-assisted walking. A Fuzzy Logic approach estimating attention, stress, energy expenditure, and fatigue levels was designed and validated on healthy and pathological participants.

SENSE-RISC: Development of instrumented suits for prevention and mitigation of workers' safety risks (Project funded by National Institute for Insurance against Accidents at Work, CUP: B56C18004200005)

Role: Design and validation of classification and estimation models assessing the activity level and a multiparametric indicator of workers. Integration of the cloud architecture implemented to collect data from wearable sensors with the user state estimation software.

TOTEM: TOTAl Ergonomic Measurement Platform (Project Horizon 2020 – PON 2014/2020)

Role: Validation of M-IMU sensors by using an anthropomorphic manipulator. The robotic arm was controlled to generate controlled motions to compute M-IMUs tracking accuracy.

SAFE-MOVER: User-centred design of a robotic device for improving working conditions and user subjective perspective during patient-handling movements (Bando University Strategic Projects, Topic: Healthcare 4.0)

Role: Biomechanical analysis of healthcare operators during patient-handling movements and patients' psychophysiological assessment.

ARONA: Surgical navigation assisted by advanced robotics (Project MIUR PON Research and Innovation 2014 – 2020, CUP: B56C18004200005)

Role: Validation of a hands-on approach for robot-aided pedicle screw fixation. Biomechanical evaluation of participants performing the robot-aided pedicle screw fixation in different tapping modalities.

RehabRobo@work: Bio-cooperative robotic system for upper-limb rehabilitation in working environments (Project funded by National Institute for Insurance against Accidents at Work, CUP: E58C13000990001)

Role: Integration of the bio-cooperative robotic platform. Development and validation of a patient-tailored control strategy for end-effector robots. Clinical validation of the platform on patients affected by musculoskeletal disorders.

SIRASI: Robotic system for upper and lower limb rehabilitation (Bando INTESE)

Role: Assembly of the modules making up the SIRASI platform and validation employing empty and load handling tests. The robotic platform was validated for both upper and lower limbs.

AWARDS

- 2025 Finalist (Top 3) for the Best Paper Award at the I-RIM 3D 2025 conference held in Rome with the paper "Identifying Key Parameters in Physiotherapists' Decision-Making for Robot-Aided Rehabilitation".
- 2025 Best Paper Award at the 14th Forum of Italian Ambient Assisted Living (ForItAAL 2025) conference held in Rome with the paper "DeepPhysioNet: A Deep Physiological Feature Extraction Method for Affective State Recognition from Wearable Sensing".
- 2025 Finalist (Top 11) at the Most Promising Researcher in Robotics and Artificial Intelligence Award as part of the RomeCup 2025.
- 2024 Best Paper Award at the 23rd International Conference of the Italian Association for Artificial Intelligence (AlxIA 2024) conference held in Bolzano with the paper "REPAIR Platform: Robot-AidEd PersonAllzed Rehabilitation"
- 2024 Supervisor of the winner of the Master Thesis Award Istituto di Biorobotica of Scuola Superiore Sant'Anna by Gruppo Nazionale di Bioingegneria (Gianmarco Cirelli) for *his excellent results obtained on the semiautonomous control strategy for a hand-wrist prosthesis based on computer vision*.
- 2020 First place in the sixth "Premio Qualità" competition organized by the Clinical Directorate of the University Hospital Università Campus Bio-Medico di Roma. The Award aimed at presenting and rewarding experiences that, by highlighting virtuous behavior, documented an improvement in quality through an organization of work that put the patient and the operator at the center of its work.

JOURNAL PAPERS

- [1] R. Molle, **C. Tamantini**, C. Lauretti, E. M. Romano, and L. Zollo. "An online reinforcement learning method to improve control adaptability in robot-aided rehabilitation". In: *Engineering Applications of Artificial Intelligence* 161 (2025). DOI: [10.1016/j.engappai.2025.112248](https://doi.org/10.1016/j.engappai.2025.112248).
- [2] R. Molle, **C. Tamantini**, C. Lauretti, F. Cordella, F. Scotto di Luzio, D. Sebastiani, F. Santacaterina, M. Bravi, F. Bressi, S. Miccinilli, and L. Zollo. "Exploring Priority Parameters in Physiotherapist Decision Models for Tailoring Robot-Aided Rehabilitation". In: *International Journal of Social Robotics* (2025). DOI: [10.1007/s12369-025-01309-3](https://doi.org/10.1007/s12369-025-01309-3).
- [3] **C. Tamantini**, A. Umbrico, and A. Orlandini. "Automated planning and scheduling in robot-aided rehabilitation: a review". In: *Journal of NeuroEngineering and Rehabilitation* 22.1 (2025). DOI: [10.1186/s12984-025-01710-z](https://doi.org/10.1186/s12984-025-01710-z).
- [4] F. Santacaterina, **C. Tamantini**, G. Camarro, S. Miccinilli, F. Bressi, L. Zollo, S. Sterzi, and M. Bravi. "Is Brazilian Jiu-Jitsu a Traumatic Sport? Survey on Italian Athletes' Rehabilitation and Return to Sport". In: *Journal of Functional Morphology and Kinesiology* 10.3 (2025). DOI: [10.3390/jfmk10030286](https://doi.org/10.3390/jfmk10030286).
- [5] O. Coser, **C. Tamantini**, M. Tortora, L. Furia, R. Sicilia, L. Zollo, and P. Soda. "Deep learning for human locomotion analysis in lower-limb exoskeletons: a comparative study". In: *Frontiers in Computer Science* 7 (2025). DOI: [10.3389/fcomp.2025.1597143](https://doi.org/10.3389/fcomp.2025.1597143).
- [6] **C. Tamantini**, M. L. Cristofanelli, F. Fracasso, A. Umbrico, G. Cortellessa, A. Orlandini, and F. Cordella. "Physiological Sensor Technologies in Workload Estimation: A Review". In: *IEEE Sensors Journal* 25.18 (2025), pp. 34298–34310. DOI: [10.1109/JSEN.2025.3597329](https://doi.org/10.1109/JSEN.2025.3597329).
- [7] **C. Tamantini**, K. Patrice Langlois, D. R. Cianca, and L. Zollo. "Editorial: Advancements in AI-driven multimodal interfaces for robot-aided rehabilitation". In: *Frontiers in Robotics and AI* 12 (2025). DOI: [10.3389/frobt.2025.1605418](https://doi.org/10.3389/frobt.2025.1605418).
- [8] R. Billardello, **C. Tamantini**, F. Cordella, F. Scotto di Luzio, T. Varrecchia, G. Chini, F. Draicchio, A. Ranavolo, and L. Zollo. "Estimating workers' physical effort during isometric contractions through sEMG: the role of feature selection". In: *ACM Transactions on Human-Robot Interaction* (2025). DOI: [10.1145/3759159](https://doi.org/10.1145/3759159).
- [9] F. Scotto di Luzio, **C. Tamantini**, R. Di Maro, C. Carnazzo, S. Spada, F. Draicchio, and L. Zollo. "Biomechanical and physiological effects of passive upper limb exoskeletons in simulated manufacturing tasks". In: *Wearable Technologies* 6 (2025). DOI: [10.1017/wtc.2025.10021](https://doi.org/10.1017/wtc.2025.10021).

- [10] **C. Tamantini**, F. Marra, J. Di Tocco, S. Di Modica, A. Lanatà, F. Cordella, M. Ferrarin, F. Rizzo, M. Stefanelli, M. Papacchini, C. Delle Site, A. Tamburrano, C. Massaroni, E. Schena, L. Zollo, and M. S. Sarto. “SenseRisc: An instrumented smart shirt for risk prevention in the workplace”. In: *Wearable Technologies* 6 (2025). DOI: [10.1017/wtc.2025.10](https://doi.org/10.1017/wtc.2025.10).
- [11] **C. Tamantini**, K. Patrice Langlois, J. de Winter, P. H. Ali Mohamadi, D. Beckwée, E. Swinnen, T. Verstraten, B. Vanderborght, and L. Zollo. “Promoting active participation in robot-aided rehabilitation via machine learning and impedance control”. In: *Frontiers in Digital Health* 7 (2025). DOI: [10.3389/fdgth.2025.1559796](https://doi.org/10.3389/fdgth.2025.1559796).
- [12] **C. Tamantini**, F. Cordella, F. Scotto di Luzio, C. Lauretti, B. Campagnola, F. Santacaterina, M. Bravi, F. Bressi, F. Draicchio, S. Miccinilli, and L. Zollo. “A fuzzy-logic approach for longitudinal assessment of patients’ psychophysiological state: an application to upper-limb orthopedic robot-aided rehabilitation”. In: *Journal of NeuroEngineering and Rehabilitation* 21.1 (2024). DOI: [10.1186/s12984-024-01501-y](https://doi.org/10.1186/s12984-024-01501-y).
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