University of Messina, Italy
Department of Mathematical and Computer Sciences,
Physical Sciences and Earth Sciences

Subject: Internship Proposal

ID	PTI_La Rosa Francesco_22/09/2025 9.07.43
Data	22/09/2025 9.07.43

Project Supervisor

Surname	La Rosa
Name	Francesco
Department	22/09/2025
Laboratory	FCRLAB
E-mail	flarosa@unime.it
Phone number	

Project Co-Supervisor

Surname	Dell'Acqua
Name	Pierluigi
Job Position	Dottorando
Department	MIFT

Laboratory	FCRLAB
E-mail	pidellacqua@unime.it
Phone number	

Project details

Title	Computer Vision and Human–Computer Interaction Techniques for Posture Analysis and Sports Injury Prevention

Detailed description: The aim of this project is to develop and apply advanced Computer Vision and Human–Computer Interaction (HCI)techniques for athlete posture analysis and injury risk assessment in sports contexts. The student will be involved in the study and implementation of movement recognition and tracking solutions using pose estimation algorithms and deep learning models. Public datasets and/or lab-acquired data will be considered for model training and validation. Activities will include:

analysis of state-of-the-art computer vision algorithms for posture estimation,
design of interactive interfaces and feedback tools for athletes and coaches,
experimentation of solutions for injury prevention, with a focus on real-world sports applications.
The project provides hands-on experience with CV frameworks (OpenCV, MediaPipe, PyTorch/TensorFlow) and HCI tools, fostering innovation in the sport-tech domain.

Duration (month – max 12)	12
Duration (hours)	undefined
Open positions	3

Internship Skills

Technical requirements: Possesses basic knowledge of C and Python programming languages, algorithms, and data structures.	
Other skills	Willingness and aptitude for teamwork. Strong commitment and availability to attend the facilities of the FCRLab.