

## PERSONAL INFORMATION

## Matteo Sposito



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Date of birth 25/11/1989 | Nationality Italian

## WORK EXPERIENCE

16/04/2017–30/04/2018

**Internship Fellow**

Istituto Italiano di Tecnologia, Genoa (Italy)

Internship Fellow in the XoSoft Project ([www.xosoft.eu](http://www.xosoft.eu)) :

- Knee module developing
- Knee module testing and performance evaluation
- Testbench for actuation mechanism and energy storage mechanism of the Knee module
- Integration of the control software for the module in main exosuit controller and testing

01/04/2016–01/04/2017

**Fellowship**

Università Degli Studi di Perugia, Physics Department, Perugia (Italy)

Associate at INFN (Perugia):

- test on readout cards (front-end electronics) of the silicon microstrip detector of CSES satellite (<http://cses.roma2.infn.it>)
- performance tests of the microstrip sensors
- system integration of the CSES-HEPD (high energy particle detector) in Tor Vergata's Cleanroom
- use of the automated test equipment for microstrip sensor
- participation at Beam Test at LNF (Laboratori Nazionali di Frascati) for CSES
- participation at Beam Test at CERN for DAMPE (<http://dpnc.unige.ch/dampe/>)

03/2013–10/2015

**Team Member (Volunteer)**

UnipgRacing Team, Perugia (Italy)

- Project and assembly of an Automatic Gear Shifter
- Overhaul and adaptation of all the wiring of RB111 and RB112 Formula SAE Racing cars
- Supervision of the telemetry system's software (C#)
- Project of telemetry system's hardware and firmware (ST Microelectronics ARM Cortex-M4 MCU)

## EDUCATION AND TRAINING

01/05/2018–Present

**PhD in Bioengineering**

Politecnico di Milano, NEARLab, Milan (Italy)

Istituto Italiano di Tecnologia, Advanced Robotic Department, Genoa (Italy)

Project : Adaptable physical human-robot interfaces for industrial exoskeletons (Supervisor Dott. Elena De Momi, Dott. Jesus Ortiz)

09/2016

**Abilitazione alla Professione di Ingegnere (Classe Automazione e**

**Informatica)**

Ordine degli Ingegneri di Perugia, Perugia (Italy)

**10/2014–02/2016 Master Degree in Software and Automation Engineering**

Università degli Studi di Perugia, Perugia (Italy)

Master Thesis: Development, Manufacturing and Performance analysis of TPFA artificial muscles for a 3D printed prosthesis hand

Internship : Development of a digital heliostat at POST Museum (Perugia)

Project for "Ottimizzazione e Controllo" class : Implementation and performance analysis of FOC and KF State Estimation for sensorless control of brushless mtotors in Simulink

**10/2008–10/2014 Bachelor Degree in Software and Electronics Engineerig**

Università degli Studi di Perugia, Perugia (Italy)

Bachelor thesis : Project of an Automatic Gear Shifter for a Formula SAE race car

**PERSONAL SKILLS**

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
German	A2	A2	A1	A1	A2
Japanese	A1	A1	A1	A1	A1

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

**Communication skills**

- great communicative skill in a little group of people gained while volunteer student at UnipgRACING Team
- good communicative skill in a big group of researchers, from different places, while fellow student at INFN Perugia

**Organisational / managerial skills**

- great self-organisational skill as volunteer student (Team Member) at UnipgRACING Team
- good managerial skills as volunteer student (Electronic Group Leader) at UnipgRACING Team
- good organisational skills in a big group of people, also when needed to move and organize the jobs between different laboratories (CSES experiment)

**Job-related skills**

- *Programming:*  
 Programming languages: Java, C, C++  
 Programming under Windows, Linux, Android and Matlab  
 Firmware development on ARM and ATMEGA platform  
 Debug and versioning for software development
- *Software Engineering:*  
 Use of Object Oriented Pattern  
 Software design through UML Class and State Machine Diagrams
- *Control Engineering:*  
 Tuning and software implementation of PID controllers

Simulation and design of feedback and feedforward digital controllers  
 Linearization of Non Linear systems for Control (KF and Feedback Linearization)

▪ *Robotics:*

Simulation and trajectory planning of robot's motion  
 Kinematics, Dynamics and Motor Speed Control  
 Soft Robotics and interfaces for human body

▪ *Electronics:*

Low frequency electric simulation via software (e.g. LTspice)  
 Design of PCB and understanding of electrical schematics and datasheets  
 Analog data acquisition and digitalization  
 Use of laboratory test equipment (low/high power, low/high frequency)

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Independent user	Independent user	Proficient user

Digital skills - Self-assessment grid

Driving licence B

ADDITIONAL INFORMATION

**Projects** ■ Team Member (Electronics) UnipgRacing Team (2012-2015), designed an automatic gear shifter and worked at the wireless telemetry project (both Hardware and Software)

**Courses** ■ Campus @ Micron ( agosto 2012)

**Certifications** ■ Cambridge FIRST  
 ■ JPLT N5  
 ■ Attestato Partecipazione progetto UnipgRacing Team