

CURRICULUM VITAE

Edoardo Sotgiu

Born in Livorno, Italy, on 21 May 1973

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WORK EXPERIENCE

<ul style="list-style-type: none">• Dates (from – to)• Name of employer<ul style="list-style-type: none">• Sector• Occupation	March 2017 – Current Iberian International Nanotechnology Laboratory (INL) Microfabrication and Exploratory Nanotechnology Staff Researcher Research on Microfabrication and Nanotechnology applied to the Haptics and Tactile Devices. <i>Tools: MATLAB, Simulink, MS Office</i>
<ul style="list-style-type: none">• Dates (from – to)• Name of employer<ul style="list-style-type: none">• Sector• Occupation	January 2016 – March 2017 Scuola Superiore Sant'Anna – TeCIP Institute - PERCRO Lab Research Center in Telerobotic, Telepresence and Virtual Reality Research Fellow <ul style="list-style-type: none">• Mechanical design of wrist robotic system for teleoperation system and for rehabilitation therapy. FEM analysis. Development of control algorithms and hi-level software of rehabilitation system. European project H2020-ICT 644839 CENTAURO• Collaboration in construction of an underactuated hand exoskeleton for rehabilitation purpose. European project FP7-ICT 601165 WearHap <i>Tools: PTC Creo 2, MATLAB, Simulink, MS Office</i>
<ul style="list-style-type: none">• Dates (from – to)• Name and address of employer<ul style="list-style-type: none">• Sector• Occupation	September 2015 - October 2016 VRmedia srl Information Technology Technical Consulting - Design of thermoplastic covers and mechanism for HMD in industrial application <i>Tools: PTC Creo</i>
<ul style="list-style-type: none">• Dates (from – to)• Name of employer<ul style="list-style-type: none">• Sector• Occupation	December 2008-March 2014 Scuola Superiore Sant'Anna – TeCIP Institute - PERCRO Lab Research Center in Telerobotic, Telepresence and Virtual Reality Research Fellow – Application engineer. Development of low and high level control, of graphical user interface and virtual reality serious games. Design and Integration of a wearable robotic exoskeleton for upper arm rehabilitation of stroke patients. Protocol of clinical study at hospital of Pisa. European project FP6-IST 035005 SKILLS and Regional Project FAS Salute 2014 RONDA <i>Tools: MATLAB, Simulink, LaTeX, MS Office</i>
<ul style="list-style-type: none">• Dates (from – to)• Name of employer<ul style="list-style-type: none">• Sector• Occupation	January 2006-December 2008 Scuola Superiore Sant'Anna – TeCIP Institute - PERCRO Lab Research Center in Telerobotic, Telepresence and Virtual Reality Research Fellow – Application engineer Design and Integration of a mobile robotic platform with binocular robotic head as testbench for bioinspired vision algorithm. European project FP6-IST 027198 Decisions-in-Motion <i>Tools: PTC Creo, MATLAB, Simulink, OrCAD, LaTeX, MS Office</i>
<ul style="list-style-type: none">• Dates (from – to)• Name and address of employer<ul style="list-style-type: none">• Sector	July 2006 - March 2007 PEC Italia s.r.l. Industrial Automation

<ul style="list-style-type: none"> • Occupation 	<p>Technical Consulting - Design and development of control software of a burner mounted on a COMAU SMART NH-1 robot for burning test on aeronautical parts of the AGUSTA AB-139 helicopter: advanced programming of code; drafting of the user manual; test control and personnel training at the AGUSTA headquarter (Cascina Costa).</p> <p><i>Tools:</i> PDL2, MS Office, AutoCAD</p>
<ul style="list-style-type: none"> • Dates (from – to) • Name of employer • Sector • Occupation 	<p>November 2004 – January 2006</p> <p>Scuola Superiore Sant’Anna – TeCIP Institute - PERCRO Lab</p> <p>Research Center in Telerobotic, Telepresence and Virtual Reality</p> <p>Project of Fatigue Test bench of AGUSTA AB-139 helicopter: feasibility and cost analysis; design and test of robotic cell with two coordinated COMAU SMART NH-1 robot; design and test of a triaxial load cell with parallel kinematic structure; supervision of working phase about control test and experimental data analysis.</p> <p><i>Tools:</i> PDL2, PTC WF4, AutoCAD, Matlab, MS Office</p>
<ul style="list-style-type: none"> • Dates (from – to) • Name and address of employer • Sector • Occupation 	<p>April 2003- October 2004</p> <p>Scuola Superiore Sant’Anna – TeCIP Institute - PERCRO Lab</p> <p>Research Center in Telerobotic, Telepresence and Virtual Reality</p> <p>Research Fellow – Design of control algorithm of master haptic device with parallel kinematics for a surgery teleoperation system.</p> <p><i>Tools:</i> Matlab, Simulink, XPC Target, RTAI Linux</p>

EDUCATION AND TRAINING

<ul style="list-style-type: none"> • Dates (from – to) • Name and type of organization providing education and training • Thesis Title 	<p>1992-2003</p> <p>Università degli Studi di Pisa</p> <p>Faculty of Mechanical Engineering</p> <p>Development and experimental validation of control algorithms for parallel kinematics haptic interfaces</p> <p>Specific course: Mechatronic, Mechanic of Robots, Computer Aided Design, Electronics, Automated Production Process</p>
<ul style="list-style-type: none"> • Title of qualification awarded 	<p>Master's degree in Mechanical Engineering</p>

PERSONAL SKILLS AND COMPETENCES

MOTHER TONGUE	ITALIAN				
OTHER LANGUAGES					
	UNDERSTANDING		SPEAKING		WRITING
	LISTENING	READING	SPOKEN INTERACTION	SPOKEN PRODUCTION	
English	B1	B2	B1	B1	B2
German	A1	A1	-	-	A1
Spanish	A1	A1	-	-	-

TECHNICAL SKILLS AND COMPETENCES

<i>Passed the government exam and licensed as a profession engineer. Pisa 2003</i>	
MECHANICAL DESIGN TOOLS	ProEngineer Wildfire4, 5 & CREO2, Autodesk AutoCAD, Ansys14.5, SolidWorks
CONTROL DESIGN TOOLS	MATLab, Simulink, PDL2 COMAU
PROGRAMMING & SOFTWARE	C, C++, Python Microchip MPLAB, OrCAD MSWord, MSExcel, MSPowerPoint
DRIVING LICENCE(S)	Category B

ADDITIONAL INFORMATION

Awards:

- Second Place at STARTCUP Toscana 2016 with project **NaviGate**: a navigation aid for blind people in indoor environment based on IMU and RFID tags.

Courses:

- Advanced programming course in PDL2, at COMAU in Grugliasco (TO), 2004.

Patents:

- Claudio Loconsole, Antonio Frisoli, Edoardo Sotgiu, Franco Vitucci, Marco Fontana, Massimo Bergamasco, Maryam Banitalebi Dehkordi. "Haptic device for the orientation of blind subject", 2-12-2014, Patent Pending.
- Massimo Bergamasco, Antonio Frisoli, Mine Sarac, Massimiliano Solazzi, Edoardo Sotgiu. "Underactuated Hand Exoskeleton", 26-2-2016, Patent Pending.

Main Publications:

- M.Sarac, M.Solazzi, E.Sotgiu, M.Bergamasco, A. Frisoli. 'Design and kinematic optimization of a novel underactuated robotic hand exoskeleton'. *Meccanica. Advances in Biomechanics: from foundations to applications*. pp. 1-13, 2016.
- Barsotti, M.; Sotgiu, E.; Leonardis, D.; Sarac, M.; Sgherri, G.; Lamola, G.; Chiara, F.; Procopio, C.; Chisari, C. & Frisoli, A. 'A novel approach for upper limb robotic rehabilitation for stroke patients'. *International Conference on Human Haptic Sensing and Touch Enabled Computer Applications*, pp. 459-469, 2016.
- C. Loconsole, M. Banitalebi Dehkordi, E. Sotgiu, M. Fontana, M. Bergamasco, A. Frisoli. 'An IMU and RFID-based Navigation System Providing Vibrotactile Feedback for Visually Impaired People'. *Haptics: Perception, Devices, Control, and Applications. Volume 9774, Lecture Notes in Computer Science* pp 360-370, July 2016.
- M. Barsotti, D. Leonardis, C. Loconsole, M. Solazzi, E. Sotgiu, C. Procopio, et al., 'A full upper limb robotic exoskeleton for reaching and grasping rehabilitation triggered by MI-BCI', *Rehabilitation Robotics (ICORR) 2015 IEEE International Conference on*, pp. 49-54, 2015.
- Arrighi, Pieranna; Sotgiu, Edoardo; Borelli, Luigi; Crecchi, A; Bonfiglio, Luca; Carboncini, Maria Chiara; Cantore, Nicoletta; Rossi, Bruno; Frisoli, Antonio & Andre, Paolo. 'EEG correlates of action awareness in the parietal cortex'. *International Journal of Psychophysiology, Science, E. (Ed.)*, 85, 367, 2012.
- Frisoli, Antonio; Sotgiu, Edoardo; Procopio, Caterina; Chisari, Carmelo; Rossi, Bruno & Bergamasco, Massimo. 'Design and implementation of a training strategy in chronic stroke with an arm robotic exoskeleton'. *Rehabilitation Robotics (ICORR), 2011 IEEE International Conference on*, 1, pp.1-8, 2011.
- Luis I. Lugo-Villeda, Antonio Frisoli, Edoardo Sotgiu, Giovanni Greco and Massimo Bergamasco, 'Right-Arm Robotic-Aided-Therapy with the Light-Exoskeleton: A General Overview'. *Emerging Trends in Technological Innovation*. eds (2010). IFIP Advances in Information and Communication Technology, 314, Springer Boston, 2010.
- Aprile W., Ruffaldi E., Sotgiu E., Frisoli A., Bergamasco M., 'A dynamically reconfigurable stereoscopic/panoramic vision mobile robot head controlled from a virtual environment. In *The Visual computer*', *Springer Berlin*, 24(11), pp. 941-946, Nov 2008.
- Frisoli, A.; Solazzi, M.; Sotgiu, E.; Bergamasco, M. 'A new method for the estimation of position accuracy in parallel manipulators with joint clearances'. *Proceedings of the 12th World Congress in Mechanism and Machine Science, Besançon*, 2007.
- A.Frisoli, E.Sotgiu, C.A.Avizzano, D.Checcacci, M.Bergamasco. 'Force-based impedance control of a haptic master system for teleoperation'. In *Sensor Review, Emerald*, 24(1), pp. 42-50, 2004.
- Checcacci, D.; Sotgiu, E.; Frisoli, A.; Avizzano, C. & Bergamasco, M. 'Gravity compensation algorithms for parallel haptic interface'. *Robot and Human Interactive Communication, 2002. Proceedings. 11th IEEE International Workshop on*, pp.140-145, 2002.