ALESSANDRO RONCONE, Ph.D.

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PERSONAL SUMMARY

Energetic and resourceful Robotics Engineer with more than seven years' research experience and a proven publication track record. Motivated by intellectually challenging projects as well as personal achievements, I pride myself on possessing a very diverse set of skills. I am capable of pursuing individual research aimed at the development of novel applications, but I particularly love to be part of a team with bright people working toward ambitious ideas. I make robots work, and I hold a deep commitment to doing so while implementing scalable, robust, and elegant code.

SKILLS

PERSONAL AND SELF-MANAGEMENT SKILLS

- Strongly self motivated, i.e. able to be not only motivated by external rewards, but by an inner drive to accomplish and perform (at any level). This competence has been useful also in other fields, e.g. sport (see below).
- Fast and avid learner, enthusiastic toward the development of technologically challenging projects in the Robotics/Artificial Intelligence/Computer Science fields.
- Able to carry out well-executed engineering projects with an eye to clean, scalable code deployment and making things - really - work.
- Pragmatic: able to look at problems and solve them in the most logical way possible.

COMMUNICATION SKILLS

- Strong presentation/communication skills thanks to experience in giving both technical and non-technical talks to both small and big groups, tailoring to the audience. Presented to major international robotics conferences, as well as several outreach events, ranging from exhibitions and fairs, to live TV shows and various interviews.
- Confident in writing technical reports as well as scientific papers. Authored and co-authored numerous international peer-reviewed scientific articles and journals. Some experience with research grant writing.
- Experienced in carrying out well designed and well balanced reports and presentations thanks to noteworthy experience in graphic design (see below).

INTERPERSONAL AND TEAMWORK SKILLS

- Proven ability to manage multiple projects and supervise multiple people while meeting challenging deadlines. Supervised and trained technicians, Ph.D. students, and postdoctoral researchers, adapting to various scientific levels and backgrounds.
- Able to *value input from others* even if it comes from people who are reporting to me. Able to understand what *motivates* the people I am working with, and to leverage on their strengths and weaknesses in order to optimally distribute the amount of work a complex project is composed of. Able to *delegate*: something assigned to everyone is assigned to no one.
- Demonstrated ability to work both independently and in team settings.

TECHNICAL SKILLS

- **5+ years** research experience in the development of one of the most advanced robotic platforms out there, i.e. the *iCub*, a state-of-the-art, 53-DoF humanoid robot with a variety of sensors on board (camera, force sensors, tactile sensors). **2+ years**' experience with the *Baxter Research Robot*.
- Main focus on machine perception and intelligent systems. Interested in kinematics, multisensory integration, calibration, tactile sensing, machine learning, 2D and 3D computer vision, IMU processing and human-robot interaction. Considerable background in employing optimization techniques in real-world robotic applications. Some experience with control theory.
- Developer of dozens of software modules for the iCub project - some of them available at www.github.com/alecive and www.github.com/robotology). Familiar with the implementation and maintenance of cross-platform software for Linux, Windows, OSx (*CMake*). Comfortable with different versioning systems (*cvs*, *svn*, *git*).
- Extensive knowledge in C++, Matlab/R, IPOPT, OpenCV, Bash, HTML5, CSS, Java/Android programming.

■ Extended competence in the usage of the YARP middleware. Growing experience with the ROS middleware.

ADDITIONAL SKILLS

■ Long-time Linux user with deep knowledge of the Linux/UNIX OS, and active contributor of the Linux FOSS community.

■ Experienced graphic artist and freelancer. Design is problem solving, no different from engineering: design skills are advantageous for many engineering-related situations.

■ Developer of two well known iconsets (AwOken and FlatWoken), themes for the GNOME Desktop Environment, and a number of websites. Commissioned with various design projects from a number of companies.

■ Semi-professional runner (marathons and half-marathons, preferrable 10-15k, occasionally mountain races): strengthened self-reliance and self-motivation, as well as ability to push until a project is done.

■ Captain of a local water polo team during high school: developed teamwork and communication skills.

■ Languages: **Italian** (native speaker), **English** (fluent written and oral skills).

RELEVANT EXPERIENCE

2015-present - POSTDOC - YALE UNIVERSITY - SOCIAL ROBOTICS LAB, NEW HAVEN, CT, USA

■ Currently focusing on the exploitation of bidirectional communication between the robot and the human in the context of human-robot collaborative tasks. Working toward the implementation of a more natural and intuitive interaction, in order for it to be more efficient and effective, as well as less demanding for the human partner.

2010-2015 - ROBOTICS ENGINEER - IIT - ITALIAN INSTITUTE OF TECHNOLOGY, GENOA, IT

■ Various positions [*Research Fellow*(2010-2011), *Ph.D. Student*(2012-2014), *PostDoctoral Research Fellow (2015)*].

■ Involved in the *Xperience* FP7-ICT-270273 and *WYSIWYD* FP7-ICT-61239 projects, funded by the European Union Seventh Framework Program with a funding of €7,634,000 and €4,583,016 respectively.

EDUCATION

PH.D. IN ROBOTICS (2012-2015) - IIT - ITALIAN INSTITUTE OF TECHNOLOGY, GENOA, IT

■ Thesis title: *"Expanding sensorimotor capabilities of humanoid robots through multisensory integration. A study on the implementation of peripersonal space on the iCub."*

MSc (110/110 SUMMA CUM LAUDE) NEUROENGINEERING (2008-2011) - UNIVERSITY OF GENOA, IT

■ Thesis title: *"Visuo-Haptic Integration for Object Characterization in an Unstructured Environment."*

BSc (110/110 SUMMA CUM LAUDE) BIOMEDICAL ENGINEERING (2005-2008) - UNIVERSITY OF GENOA, IT

■ Thesis title: *"Support Vector Machine Analysis applied to a Manipulator in a Non-Structured Environment."*

Student (WITH SCHOLARSHIP) (2005-2008) - ISICT - Institute for Advanced Studies in ICT

■ Successfully selected for scholarship, after thorough examination (only three positions available out of hundreds of candidates). Attended a number of supplementary courses (e.g. *Marketing, Management, Effective Communication,* and many more).

SELECTED PUBLICATIONS

■ **A. Roncone**, O. Mangin, B. Scassellati. *Transparent Role Assignment and Task Allocation in Human-Robot Collaboration*. In 2017 IEEE Int. Conf. Robotics and Automation - ICRA '17.

■ **A. Roncone**, U. Pattacini, G. Metta, L. Natale. *A Cartesian 6-DoF Gaze Controller for Humanoid Robots*. In 2016 Robotics: Science and Systems Conference - RSS '16.

■ H. Lehmann, **A. Roncone**, U. Pattacini, G. Metta. P*hysiologically Inspired Blinking Behavior for a Humanoid Robot*. In 2016 Int. Conf. On Social Robotics - ICSR '16.

■ **A. Roncone**, M. Hoffmann, U. Pattacini, L. Fadiga, G. Metta. *Peripersonal space and margin of safety around the body: learning tactile-visual associations in a humanoid robot with artificial skin.* PLOS ONE, 2016.

■ **A. Roncone**, M. Hoffmann, U. Pattacini, G. Metta. *Learning Peripersonal space representation through artificial skin for avoidance and reaching with whole body surface*. In 2015 IEEE-RSJ Int. Conf. On Intelligent Robots and Systems - IROS '15.

■ **A. Roncone**, U. Pattacini, G. Metta, L. Natale. *Gaze stabilization for humanoid robots: a comprehensive framework*. In 2014 IEEE-RAS Int. Conf. on Humanoid Robots - HUMANOIDS '14.

■ **A. Roncone**, M. Hoffmann, U. Pattacini, G. Metta. *Automatic kinematic chain calibration using artificial skin: self-touch in the iCub humanoid robot*. In 2014 IEEE Int. Conf. Robotics and Automation - ICRA '14.