

## MASSIMILIANO PATAACCHIOLA

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Name	Massimiliano
Surname	Patacchiola
Address	PL4 7DR, Plymouth, Devon, UK
GitHub	<a href="https://github.com/mpatacchiola">https://github.com/mpatacchiola</a>
Date of birth	25 June 1985
Nationality	Italian
Sex	Male
Marital status	Single

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### Education

- 2015-present PhD student in “Cognitive Robotics and Computational Modelling”, Plymouth University, School of Computing, Electronics and Mathematics, Plymouth (United Kingdom).  
I am designing the social skills of three humanoid robots using approaches derived from Probabilistic Robotics and Machine Learning.  
Project THRIVE (Trust in Human Robot Interaction) funded by AFOSR (Air Force Office of Scientific Research, USA)  
Supervisors: Angelo Cangelosi, Torbjorn Dahl, Giorgio Metta  
[www.thrive-project.org](http://www.thrive-project.org)
- 2009-2011 MSc in “Cognitive Neuroscience”, La Sapienza University, Rome (Italy).  
Advanced preparation in: neural networks processing, cognitive models, neurobiology, neurophysiology.  
Dissertation title: Artificial neural networks for body perception in simulated robots.  
Supervisors: Stefano Puglisi Allegra, Gianluca Baldassarre, Domenico Parisi
- 2006-2009 BSc in “Experimental Cognitive Psychology”, La Sapienza University, Rome (Italy).  
Advanced preparation in: scientific methodology, analysis of cognitive processes, applied statistics, neurobiology and genetics.  
Dissertation title: Effects of perceptual load on visual search and visuospatial memory tasks.  
Supervisor: Marta Olivetti Belardinelli
- 1999-2004 Secondary School, “Liceo Scientifico, Piano Nazionale di Informatica” (Scientific Course, National Plan of Computer Science), Rieti (Italy).  
It gives entry to university. Main subjects: computer science, mathematics, physics, biology, english, french.
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### Work/Research Experience

- 2012-2015 Robotics specialist, Eurolink Systems group, Rome (Italy).  
I was part of the software department and responsible of the internal repository. My duties involved creating algorithms and models for the control of UGV (Unmanned Ground Vehicle) and UAV (Unmanned Aerial Vehicle). I used ROS (Robotic Operating System) to implement SLAM (Simultaneous Localization And Mapping)

in the Leopard-Bee autonomous robot. I also collaborated with the department of electronics and mechanics for designing the COBRA system, a micro tethered UAV which has been used by the Italian Army.

[www.eurolinksystems.com](http://www.eurolinksystems.com)

2011-2012 Internship, LARAL (Laboratory of Artificial Life and Robotics), Institute of Cognitive Sciences and Technologies, Rome (Italy).

My duties involved creating cognitive models for simulations in Evolutionary Robotics. During this period I created libraries in C++ and Java for the implementation of Neural Networks and Genetic Algorithms. I also used the iCub simulator and the Evorobot software. Part of the results achieved during this internship were published in a journal [1].

<http://laral.istc.cnr.it>

2009 Placement, ECONA (Research Centre for Cognitive Elaboration on Natural and Artificial Systems), La Sapienza University, Rome (Italy).

Research project on visual perception and memory. My duties involved planning the project, submission of test to subjects, elaboration and interpretation of data. The result obtained was presented in the final dissertation of my Bachelor.

<https://web.uniroma1.it/econa>

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## Technical Skills

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|------------------|--|
| Robotics         | <ul style="list-style-type: none"><li>-Creating libraries for the control of different humanoid robots (Aldebaran NAO, iCub, Scitos G5).</li><li>-Experience with the most important software tools for Robotics: ROS, YARP, NAOqi and Choregraphe.</li><li>-Web Interfaces based on HTML, PHP and JavaScript for the remote control of robots and arms.</li><li>-Experience in programming Atmel and Microchip microcontrollers, experience in embedded programming (Raspberry Pi, Beagleboard, Pandaboard, Arduino, etc).</li><li>-Hands-on experience with LIDAR, motor controllers, inertial units, encoders, accelerometer, GPS, sensors (ultrasonic, infrared, temperature, pressure, etc).</li><li>-Hands-on experience in rapid prototyping using 3D printers.</li></ul> |
| CS               | <ul style="list-style-type: none"><li>-Advanced knowledge of Unix OS (Shell, Bash scripting, SSH) and related tools (gcc, g++, make, vi, git, etc).</li><li>-Proficiency in C/C++, especially optimization using C++11.</li><li>-I have familiarity with several programming languages (C#, Python, Java, Visual Basic, HTML, PHP, JavaScript) and tools for debug (gdb, valgrind), software design (UML) and documentation (Doxygen).</li><li>-Use of the statistical software R and Matlab for data analysis.</li></ul>  |
| Machine Learning | <ul style="list-style-type: none"><li>- Experience with supervised and unsupervised learning algorithms (ANN, SVM, Regression, clustering, anomaly detection) .</li><li>-Translation of mathematical models in computer code.</li></ul>  |

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## Languages

Italian: native speaker  
English: advanced  
French: intermediate

2014 TOEFL iBT English certification. Total Score: 88

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## Talks, Conferences, Workshops

20-11-2015 (Invited Speaker) Modelling Human-Robot Interaction Experiments. University of Messina, Messina, Italy.

08-2015 (Participant) 2<sup>nd</sup> Summer School on Social Human-Robot Interaction. Åland, Finland.

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## Publications

[1] Paglieri F., Parisi D., Patacchiola M., Petrosino G., 2015. Investigating intertemporal choice through experimental evolutionary robotics. Behavioural Processes, Vol. 115.