MASSIMILIANO PATACCHIOLA

Name	Massimiliano
Surname	Patacchiola
Address	Edinburgh, Scotland, United Kingdom
Blog	http://mpatacchiola.github.io/blog
GitHub	https://github.com/mpatacchiola
Nationality	Italian
Sex	Male

Profile

Researcher specialised in computational modelling through machine learning and deep learning techniques. Interdisciplinary skills in machine learning, robotics, and neuroscience.
Research interests: deep learning (neural net compression, generative models), reinforcement learning (learning in large state spaces), robotics (cognitive architectures).

Work/Research Experience

2018-Present	Postdoctoral Researcher. University of Edinburgh. United Kingdom. Member of the Machine Learning group. Research project on compression of large neural networks and efficient few-shot learning (in collaboration with Huawei). (www.anc.ed.ac.uk/machine-learning) Supervisor: Amos Storkey
2018 Summer	Internship, Snapchat inc. Research project on the disentanglement of latent representations in deep autoencoders (www.snapchat.com)
2012-2015	Robotics Engineer. Eurolink Systems group. Rome. Italy. My duties involved creating algorithms and models for the control of UGV (Unmanned Ground Vehicle) and UAV (Unmanned Aerial Vehicle) (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 (http://laral.istc.cnr.it)
2008-2009	Placement, ECONA (Research Centre for Cognitive Elaboration on Natural and Artificial Systems). La Sapienza University. Rome, Italy. Research project on visual perception and memory (https://web.uniroma1.it/econa)

Education

2015-2018	PhD in “Cognitive Robotics and Machine Learning”. Plymouth University, School of Computing, Electronics and Mathematics. United Kingdom. Supervisors: Angelo Cangelosi, Torbjorn Dahl, Giorgio Metta

2009-2011	MSc in “Cognitive Neuroscience”. La Sapienza University. Rome, Italy. Supervisors: Stefano Puglisi Allegra, Gianluca Baldassarre, Domenico Parisi
2006-2009	BSc in “Experimental Cognitive Psychology”. La Sapienza University. Rome, Italy. Supervisor: Marta Olivetti Belardinelli
1999-2004	Secondary School. Scientific Course: National Plan of Computer Science. Rieti,Italy. It gives entry to university. Main subjects: computer science, mathematics (linear algebra, pre-calculus, calculus), physics, biology, English, French.

Technical Skills

Machine Learning	-Programming experience with pyTorch, TensorFlow and Google Cloud ML for Deep Learning applications -Experience with Artificial Neural Networks and the most recent Deep Learning architectures (e.g ResNet, ResNeXt, WideResNet, DenseNet, GAN, VAE, etc). -Experience with supervised, unsupervised learning algorithms, reinforcement learning (DQN, Double DQN, MC, SARSA, etc), and Bayesian networks.
Robotics	-I developed libraries for the control of humanoid robots, drones and autonomous ground rover. -Experience with the most important software tools for Robotics and Computer Vision (e.g. ROS, YARP, NAOqi, OpenAI Gym, OpenCV).
Computer Science	-Advanced knowledge of Unix OS (Shell, Bash scripting, SSH). -Proficiency in Python (Numpy) and familiarity with several programming languages (C/C++, C#, Java, Visual Basic, HTML, PHP, JavaScript).

Languages

Italian (native speaker), English (advanced), French (intermediate)

Awards, Fellowships and Scholarships

2018-present	Associate Fellowship, Higher Education Academy (HEA). Programme that supports early career researchers who have responsibility for teaching and learning.
03-2016	Academic Hardware Grant, NVIDIA corporation. I received a Tesla K40 GPU in support of a project on head pose estimation through convolutional neural networks.
2012-present	Member, Mensa International. Society for people with high intelligence quotient.

Talks, Conferences, Workshops, Media

27-07-2017	(Extra) BBC documentary. Hyper Evolution: Rise of the Robots. Episode 1 and 2,

	the iCub humanoid robot at CRNS lab.
2015-present	(Reviewer) I have been the reviewer for different conferences and journals: ICRA (International Conference on Robotics and Automation), IROS (International Conference on Intelligent Robots and Systems), IEEE Transactions on Cognitive and Developmental Systems.

Selected Publications [scholar]

Polvara* R., **Patacchiola*** **M.**, Sharma, S., Wan J., Manning, A., Sutton R., Cangelosi, A. (under review). “Autonomous Quadrotor Landing using Deep Reinforcement Learning”. *Co-first authors, [arxiv]

Patacchiola, M., Cangelosi, A. (2017). “Head Pose Estimation in the Wild using Convolutional Neural Networks and Adaptive Gradient Methods”. *Pattern Recognition*, vol. 71, pp. 132-143. [pdf] [GitHub]

Zanatto, D., **Patacchiola, M.**, Goslin, J., Cangelosi, A. (2016). “Priming antropomorphism: Can the credibility of humanlike robots be transferred to non-humanlike robots?”. *In Proceeding of the Eleventh Annual ACM/IEEE International Conference on Human Robot Interaction*, Christchurch, New Zeland, pp. 534-544. [pdf]