(SHORT) CURRICULUM VITAE - August 2020
Massimiliano Patacchiola, PhD

Name	Massimiliano
Surname	Patacchiola
Address	Edinburgh, Scotland, United Kingdom
Scholar	https://scholar.google.com/citations?user=L4GcSrsAAAAJ
Blog	http://mpatacchiola.github.io/blog
GitHub	https://github.com/mpatacchiola
Nationality	Italian
Sex	Male

Profile

Researcher working on the development of new methods for efficient deep learning, where "efficient" means: less data, less supervision, less computation. Interdisciplinary skills in machine learning, robotics, and cognitive science. *Research interests:* deep learning (few-shot learning, self-supervised learning), Bayesian inference (Gaussian Processes), reinforcement learning and robotics.

Work/Research Experience

2018-Present	Postdoctoral Researcher. University of Edinburgh. United Kingdom. Member of the Machine Learning group. Research project on efficient few-shot learning via Bayesian methods, and self-supervised learning (in collaboration with Huawei). (www.anc.ed.ac.uk/machine-learning) Supervisor: Amos Storkey
2018	Internship, Snapchat inc. London. United Kingdom. Research project on the disentanglement of latent representations in deep autoencoders for applications such as style transfer and face-attributes generation (www.snapchat.com) Supervisors: Patrick-Fox Roberts, Edward Rosten
2012-2015	Robotics Engineer. Eurolink Systems group. Rome. Italy. Development of models for the control of UGV (Unmanned Ground Vehicle) and UAV (Unmanned Aerial Vehicle) in critical applications such as search-and-rescue and bomb disposal (www.eurolinksystems.com)
2011-2012	Internship, LARAL (Laboratory of Artificial Life and Robotics). Institute of Cognitive Sciences and Technologies. Rome, Italy. Development of computational models for various experiments 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. Research project on effective machine learning methods for human-robot interaction. This work has been cited ~100 times, the repository has 1400 stars and 400 forks on GitHub. 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 (~2 years) with PyTorch and TensorFlow for deep learning applications and scientific publications. -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 methods (Gaussian Processes, Bayesian networks).
Robotics	-Developement of 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).
IT	-Proficiency in Python (~5 years, primary language). -Past exposure to several programming languages such as C/C++, C#, Visual Basic, HTML, PHP, JavaScript. -Daily usage of Unix OS (Shell, Bash scripting, SSH) and related tools.

Languages

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

Awards, Fellowships and Scholarships

06-2020	Distinguished Service Award as an Outstanding Reviewer for the IEEE Robotics and Automation Letters (RA-L). Announced at ICRA 2020 award ceremony.

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 via 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: AISTATS (International Conference on Artificial Intelligence and Statistics), ICRA (International Conference on Robotics and Automation), IROS (International Conference on Intelligent Robots and Systems).

Selected Publications [scholar]

Patacchiola, M., Storkey, A. (2020). "Self-Supervised Relational Reasoning for Representation Learning". (under review). [arxiv] [GitHub]

Patacchiola, M., Turner, J., Crowley, E. J., Storkey, A. (2019). "Deep Kernel Transfer in Gaussian Processes for Few-shot Learning". (under review). [arxiv] [GitHub]

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]

Polvara*, R., **Patacchiola*, M.**, Hanheide, M., & Neumann, G. (2020). Sim-to-Real Quadrotor Landing via Sequential Deep Q-Networks and Domain Randomization. Robotics, 9(1), 8. *Co-first authors. [paper]

Thabet, M., **Patacchiola, M.**, & Cangelosi, A. (2019). "Sample-efficient Deep Reinforcement Learning with Imaginary Rollouts for Human-Robot Interaction". *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. [arxiv]