Marta Garnelo

Work experience

May 2017 - PRESENT	**Research scientist** - DeepMind, UK Research on deep generative models
Jan. 2017 - May 2017	**Research intern** - DeepMind, UK *Generative query networks for reinforcement learning.* Included in "Neural scene representation and rendering" **Eslami et al, *Science*, 2018**
Oct. 2015 - Jan. 2017	**Graduate teaching assistant** - Imperial College London, UK Mathematical methods — Mathematics for Inference and Machine Learning Algorithms — Computational Neurodynamics
Apr. 2013 – Sep. 2013	**Research intern** - University of Cambridge, UK *Hereditary spastic paraplegia gene function in Drosophila* Supervisor: Dr Cahir O'Kane, Department of Genetics
Oct. 2012 - Mar. 2013	**Research intern** at Agency for Science, Technology and Research (A*STAR), Singapore *The role of B-cells in the tumor micro-environment of hepatocellular carcinoma* Supervisor: Dr Jean-Pierre Abastado, Singapore Immunology Network Publication: "Interaction between tumour-infiltrating B cells and T cells controls the progression of hepatocellular carcinoma" **Garnelo et al, 2015**

Education

2015 - PRESENT	**Imperial College London**, UK PhD in Machine Learning and Artificial Intelligence Advisor: Prof. Murray Shanahan
2014 - 2015	**Imperial College London**, UK Master of Science in Machine Learning with Distinction Thesis: "Machine learning algorithms for human motion recognition" Advisor: Dr. Aldo Faisal
2013 - 2014	**Imperial College London**, UK Master of Research in Bioengineering (Neurotechnology) with Distinction Thesis: "Stochastic model of interactions and variability in growth cone navigation" Advisor: Dr. Aldo Faisal
2009 - 2012	**Technische Universität München**, Germany Bachelor of Science in Biochemistry Advisor: Dr. Mathias Heikenwälder

Scholarships and Certificates

Mar. 2016	**First prize Google poster competition** for PhD students in the Computing department at Imperial College London, London, UK
Mar. 2015	**EPSRC Doctoral Training Account Studentship**. 3.5 year funding for a PhD in the Computing department at Imperial College London starting Oct 2015
Sep. 2012	**Singapore International Graduate award**, Singapore
Nov. 2011	iGEM Competition, **Gold Medal** as a member of the TU-Munich team at the MIT, USA

Publications

M. Garnelo, J. Schwarz, D. Rosenbaum, F. Viola, D. J. Rezende, S. M. A. Eslami, and Y. W. Teh. Neural processes. *Theoretical Foundations and Applications of Deep Generative Models workshop, ICML*, 2018

A. Kumar, S. M. A. Eslami, D. J. Rezende, **M. Garnelo**, F. Viola, E. Lockhart, and M. Shanahan. Consistent generative query networks. *arXiv preprint arXiv:1807.02033*, 2018

M. Garnelo, D. Rosenbaum, C. J. Maddison, T. Ramalho, D. Saxton, M. Shanahan, Y. W. Teh, D. J. Rezende, and S. M. A. Eslami. Conditional neural processes. *Proceedings of the 35th International Conference on Machine Learning*, 2018

S. M. A. Eslami, D. J. Rezende, F. Besse, F. Viola, A. S. Morcos, **M. Garnelo**, A. Ruderman, A. A. Rusu, I. Danihelka, K. Gregor, et al. Neural scene representation and rendering. *Science*, 360(6394):1204–1210, 2018

M. Garnelo, K. Arulkumaran, and M. Shanahan. Towards Deep Symbolic Reinforcement Learning. *Accepted at the 2016 NIPS Deep Reinforcement Learning Workshop*, 2016

M. Garnelo and A. A. Faisal. CRBCs for time series classification. *Under review at the 2016 NIPS Time Series Workshop*, 2016

N. Dilokthanakul, P. A. M. Mediano, **M. Garnelo**, M. C. H. Lee, K. H. Salimbeni, Arulkumaran, and M. Shanahan. Gaussian mixture variational autoencoder with consistency violation regularisation. *Under review in ICLR*, 2016

M. Garnelo, S. G. Ricoult, D. Juncker, T.E. Kennedy, and A. Aldo Faisal. Variability and reliabiltiy in axon growth cone navigation decision making. 1:47004, 2015

M. Garnelo, A. Tan, Z. Her, J. Yeong, C.J. Lim, J.Chen, K.H. Lim, A. Weber, P. Chow, A. Chung, et al. Interaction between tumour-infiltrating b cells and t cells controls the progression of hepatocellular carcinoma. *Gut*, pages gutjnl–2015, 2015

Presentations and Posters

July 2018	**'Neural Processes'** poster and oral presentation *Theoretical Foundations and Applications of Deep Generative Models workshop* (**ICML**), Sweden
July 2018	**'Conditional Neural Processes'** poster and oral presentation **ICML**, Sweden
June 2018	**'Symbolic representation learning'** at **CogX**, UK
May 2018	**'Developing neural networks in computer science'** at **Pint of Science**, UK
Apr. 2018	**'Symbolic representation learning'** *'Goals and Principles of Representation Learning' workshop* (**DALI**), Spain
Apr. 2018	**Research talk** on symbolic representations at **London Machine Learning Meetup**, UK
Oct. 2017	**'Representations for Deep Learning'** at **RE.work**, UK
Dec. 2016	**'Towards Deep Symbolic Reinforcement Learning'** poster *'Deep Reinforcement learning' workshop* **(NIPS)**, Spain
Dec. 2015	**Research presentation** in the Department of Neuroscience at **McGill** University, Canada
July 2014	**Poster presentation** at the 9th Federation of European Neuroscience Societies **(FENS)** Forum of Neuroscience, Italy

Training and Workshops

Apr. 2016	CRISM workshop on **Bayesian nonparametrics** at the **University of Warwick**, UK
July 2015	**Cuda workshop** by Nvidia at Imperial College London, UK
July 2014	**Lisbon Machine Learning Summer School** LxMLS 2014, Portugal
Feb. 2014	**Berlin Brain-Computer Interfaces Winter School** 2014 on "Advances in Neurotechnology", Germany
Dec. 2011	**Elevator-Speech training** at the Boston Consulting Group, Germany

Computer literacy

Python (advanced)	Matlab (advanced)	C++ (beginner)	Prolog (beginner)
Latex (advanced)	Git	ImageJ	Adobe Photoshop

Languages

German:	Trilingual	French:	Basic Knowledge
Spanish:	Trilingual	Mandarin:	Beginner
English:	Trilingual		

Extracurricular engagement

- **Lab instructor** at the Lisbon Machine Learning Summer School LxMLS 2016, Portugal
- Officer at the **Imperial College ACM student chapter** (webmaster)
- **Representative** of the departmental 1st year PhD students at Imperial College London (since 2015), UK
- Represented the Brain and Behaviour lab at **Imperial Festival** and at the **Big Data Workshop** from the University of the Arts London (2014), UK
- **Representative** of the MRes Bioengineering cohort at Imperial College London (2013-2014), UK