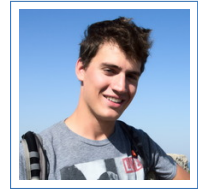


Dr. Arthur Mensch

Ph.D. in machine learning

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Education

- 2015–2018 **Doctor of Philosophy**, *Université Paris-Saclay, Inria, CEA*, Saclay, France.
Learning representations from functional MRI data.
Supervised by Pr. G. Varoquaux, Pr. J. Mairal and Pr. B. Thirion.
- 2014–2015 **École Normale Supérieure**, *Master of Science*, Cachan, France.
Master MVA : Mathematics for vision and machine learning. *Highest honors*.
- 2014–2015 **Télécom ParisTech**, *Engineer Degree*, Paris, France.
Computer Science, Applied Mathematics.
- 2011–2015 **École Polytechnique**, *Master of Science, Engineer Degree*, Palaiseau, France.
Applied Mathematics, Computer Science, Biology, Mechanics, Physics.
- 2009–2011 **Preparatory school**, *Lycée Hoche*, Versailles, France.
Mathematics, Physics, Computer Science.
- 2009 **International Baccalaureate**, *Lycée Jean-Pierre Vernant*, Sèvres, France.

Research positions

- 10/2018– **École Normale Supérieure, DMA, CNRS**, *Post-doc researcher*, Paris, France.
Laboratory of Pr. G. Peyré. Optimal transport and machine learning.
- 3/2018–7/2018 **NYU, Courant Institute of Mathematical Sciences**, *Visitor researcher*, New York, USA.
Laboratory of Pr. J. Bruna. Co-supervising a project on n-player games.
- 5/2015–9/2018 **Inria, CEA, Parietal team**, *Ph.D. candidate*, Saclay, France.
Learning representations from functional MRI data.
Supervised by Pr. G. Varoquaux, Pr. J. Mairal and Pr. B. Thirion.
- 9/2017–12/2017 **NTT Communication Science Laboratories**, *Intern researcher*, Kyoto, Japan.
Differentiable dynamic programming. Work with Dr. M. Blondel.
- 4/2014–7/2014 **McGill University, School of Computer Science**, *Intern researcher*, Montréal, Canada.
Analysis and modelling of heart dynamics and geometry – under Pr. K. Siddiqi supervision.
High rewards from the Department of Applied Mathematics at École Polytechnique.

Publications

- S. Jelassi, C. Domingo Enrich, D. Scieur, A. M., and J. Bruna. Extrapolation with player sampling for provable fast convergenc in n-player games. *To appear*, 2019.
- A. M., Mathieu Blondel, and Gabriel Peyré. Geometric losses for distributional learning. In *Proceedings of the International Conference in Machine Learning (ICML)*, 2019.
- A. M. *Learning representations from functional MRI data*. PhD thesis, 2018.
- A. M., J. Mairal, B. Thirion, and G. Varoquaux. Extracting universal representations of cognition across brain-imaging studies. *To appear*, 2018a.
- A. M. and M. Blondel. Differentiable dynamic programming for structured prediction and attention. *Proceedings of the International Conference on Machine Learning (ICML)*, 2018.
- A. M., J. Mairal, B. Thirion, and G. Varoquaux. Stochastic subsampling for factorizing huge matrices. *IEEE Transactions on Signal Processing*, 2018b.
- A. M., J. Mairal, D. Bzdok, B. Thirion, and G. Varoquaux. Learning neural representations of human cognition across many fMRI studies. In *Advances in Neural Information Processing Systems (NIPS)*, 2017.
- A. M., J. Mairal, B. Thirion, and G. Varoquaux. Dictionary learning for massive matrix factorization. In *Proceedings of the International Conference on Machine Learning (ICML)*, 2016a.
- E. Dohmatob, A. M., G. Varoquaux, and B. Thirion. Learning brain regions via large-scale online structured sparse dictionary learning. In *Advances in Neural Information Processing Systems (NIPS)*, 2016.
- A. M., G. Varoquaux, and B. Thirion. Compressed online dictionary learning for fast fMRI decomposition. In *IEEE International Symposium on Biomedical Imaging (ISBI)*, 2016b.
- A. M., J. Mairal, B. Thirion, and G. Varoquaux. Subsampled online matrix factorization with convergence guarantees. In *NIPS Workshop on Optimization for Machine Learning*, 2016c.
- A. M., E. Piuze, L. Lehnert, A.J. Bakermans, J. Sparring, G.J. Strijkers, and K. Siddiqi. Connection forms for beating the heart. In *MICCAI Workshop on Statistical Atlases and Computational Modelling of the Heart*, 2014.

Software development

Open-source development **Scikit-learn**, *Machine learning library in Python*.
Performance of decomposition methods, packaging and CI, SAGA algorithm, linear models, reviews.

Nilearn, *Python library for machine learning in neuro-imaging*.
Decomposition module, documentation, plotting, reviews.

Languages Python, C++, Java System Unix, Azure

Teaching

2018 **Deep learning**, *Master of Data Science*, Université Paris-Saclay, France.
Supervising practical sessions for 2nd year master students.

2018 **Numerical analysis/optimization**, *ENSAE*, Saclay, France.
Tutorials for 3rd year undergraduate students in mathematics.

2012 – 2015 **Analysis/algebra**, *Lycée Pasteur, Lycée Hoche*, Neuilly sur Seine – Versailles, France.
Oral exercises for 2nd year undergraduate students in physics/mathematics.

Community

Conference reviewer.

Neural Information Processing Systems, International Conference in Machine Learning, International Conference in Learning Representations

Ad-hoc journal reviewer.

Journal of Machine Learning Research, Elsevier Neuroimage, IEEE Transactions on Biomedical Engineering

Work experience

7/2013 – 8/2013 **Option**, *Intern web developer*, Santiago du Chili, Chili.
Developed backend tools for administering targeted web advertisement.

12/2011 – 4/2012 **1^{er} Régiment d'Hélicoptères de Combat**, *Deputy platoon leader*, Phalsbourg, France.
Commandeered a platoon of 30 people during their general military training in the French Army.

Languages

French	Native	
English	Fluent – C2	<i>Working language, baccalauréat international</i>
Spanish	Working level – C1	<i>Experience in Latin America</i>
Japanese	Basic level – training	<i>Experience in Japan</i>