João Loula

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EDUCATION

PhD in Brain and Cognitive Sciences 2018-
Massachusetts Institute of Technology

MSc in Applied Mathematics and Computer Science 2017-2018
École Normale Supérieure Paris-Saclay

Ingénieur Polytechnicien in Applied Mathematics and Computer Science (BSc and MSc equivalent) 2015-2017
École Polytechnique

BSc in Electrical Engineering 2013-2014
(interrupted to attend École Polytechnique)
Universidade de São Paulo

PUBLICATIONS

***Loula, J .**, Baroni, M., Lake, B.* Rearranging the Familiar: Testing Compositional Generalization in Recurrent Networks. *In review.*

*Tsividis, P.A., **Loula, J .**, Burga, J., Pouncy, T., Gershman, S. J., Tenenbaum, J. B.* Human Learning of Video Games. *NIPS Workshop on Cognitively Informed Artificial Intelligence (Spotlight Talk), 2017.*

***Loula, J .**, Thirion, B., Varoquaux, G.* Decoding fMRI activity in the time domain improves classification performance. *NeuroImage, 2017.*

*Huntenburg, J. M., Abraham, A., **Loula, J.**, Liem, F., Dadi, K., Varoquaux, G.* Loading and plotting of cortical surface representations in Nilearn. *Research Ideas and Outcomes, 2017.*

RESEARCH EXPERIENCE

Facebook AI Research 2018
Supervisors: Brenden Lake, Marco Baroni

- Work on probing compositionality in neural networks, studying the properties of compositional generalization in both linguistic and visual models.
  - Workshop paper in review
  - Publication in working

Harvard University, Massachusetts Institute of Technology 2017
Supervisors: Samuel Gershman, Joshua Tenenbaum

- Work on human-level learning in Atari-like games, learning theories from gameplay and using them to plan in a model-based manner.
  - Paper selected for Spotlight Talk at NIPS workshop
  - Publication in review

Parietal Team, Inria 2016
Supervisors: Bertrand Thirion and Gaël Varoquaux

- Developed and implemented a novel approach to decoding fMRI data in the time domain using machine learning.
  - Published paper
  - Created a toolbox for algorithm implementation
- Contributed actively to Nilearn, the team's open-source package for machine learning on brain data (Parietal is the creator of many high-profile open-source projects, notably Scikit-learn and Joblib).

Mathematical Neuroscience Team, Collège de France 2015-2016
Supervisor: Jonathan Touboul

- Performed analysis and mathematical modeling of orientation map data in the cat early visual cortex.
- Implemented an Artificial Neural Network to model early visual cortex structure.

TALKS *Nilearn Tutorial*, Brainhack Vienna 2016

AWARDS Eiffel Excellence Scholarship 2015-2017

TEACHING EXPERIENCE English Tutor, *École Polytechnique de Paris* 2015-2016
Linear Algebra Review Classes *Universidade de São Paulo* 2014

OTHER Technical blog containing neuroscience, machine-learning and math projects: `joaoloula.github.io` ; Code : `github.com/joaoloula`

TECHNOLOGY SUMMARY *Programming Languages:* Python, R, C++, MATLAB
Others: Unix, Git, LaTeX