Machine Learning for Neuroimaging,
learn the basics before going deeper

OHBM 2020 Educational Course

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Goals

Acquire knowledge about

▶ the basics of machine learning,

▶ how to make rigorous statistical inferences with these,

▶ the "Do's and Don'ts" of the technique in neuroimaging and limitations,

▶ how to interpret the results depending on the question of interest,

▶ the application of these methods on different modalities such as

- fMRI and sMRI,

- various applications in cognitive and clinical neuroscience.

Educational Course Menu

Christophe Phillips	**Machine learning in neuroimaging, what are we talking about?**	Bertrand Thirion	**What makes a good multivariate model for fMRI-based decoding?**
Pradeep Reddy Raamana	**Cross-validation, how do we assess predictive performance?**	Valeria Kebets	**Undefined labels? Try unsupervised approaches!**
Janaina Mourao-Miranda	**Confounding variables, how do we account for them?**	Pamela Douglas	**Deep Learning for Neuroimaging: What are we talking about?**
Joram Soch	**How do we test our hypothesis? A permutation approach**	Ninon Burgos	**From machine learning to deep learning, how do we ensure objective and reproducible evaluations?**
Emanuele Olivetti	**How do we test our hypotheses? a Bayesian approach.**	Thomas Yeo	**Why is this educational course not fully devoted to deep learning?**

*"You haven't mastered a tool until
you understand when it should not be used."*

- @kelseyhightower