Bayesian non parametric and Bayesian Machine Learning

ECTS : 4

Volume horaire : 18

Description du contenu de l'enseignement :

Bayesian nonparametrics:

- Basics: infinite mixture models and clustering
- Models beyond the Dirichlet process
- Posterior sampling
- Applications

Gaussian Processes

Bayesian Deep Learning

Compétence à acquérir :

Essential concepts of Bayesian nonparametrics

Essentials of Bayesian Deep Learning

Bibliographie, lectures recommandées :

- Hjort, N. L., Holmes, C., Müller, P., & Walker, S. G. (Eds.). (2010). *Bayesian nonparametrics* (Vol. 28). Cambridge University Press.
- Orbanz, P., & Teh, Y. W. (2010). Bayesian nonparametric models. *Encyclopedia of machine learning*, *1*, 81-89.
- Müller, P., Quintana, F. A., Jara, A., & Hanson, T. (2015). *Bayesian nonparametric data analysis* (Vol. 1). New York: Springer.
- Ghosal, S., & van der Vaart, A. W. (2017). *Fundamentals of nonparametric Bayesian inference* (Vol. 44). Cambridge University Press.
- Murphy, K. P. (2012). *Machine learning: a probabilistic perspective*. MIT press.
- Murphy, K. P. (2023). *Probabilistic machine learning: Advanced topics*. MIT press.