Course Title: Bayesian methods
Credit Value: 3 ECTS

Runs in (2019/20)

The course is blended.

Name of online course: Bayesian Methods for Machine Learning
Platform: Coursera
Link: https://www.coursera.org/learn/bayesian-methods-in-machine-learning
Dates: September 2019.
Name of University: National Research University Higher School of Economics

Bayesian methods are used in lots of fields: from game development to drug discovery. They give superpowers to many machine learning algorithms: handling missing data, extracting much more information from small datasets. Bayesian methods also allow us to estimate uncertainty in predictions, which is a really desirable feature for fields like medicine.
When Bayesian methods are applied to deep learning, it turns out that they allow you to compress your models 100 folds, and automatically tune hyperparametrs, saving your time and money.
In six weeks we will discuss the basics of Bayesian methods: from how to define a probabilistic model to how to make predictions from it. We will see how one can fully automate this workflow and how to speed it up using some advanced techniques.
We will also see applications of Bayesian methods to deep learning and how to generate new images with it. We will see how new drugs that cure severe diseases be found with Bayesian methods.