Contribution ID: **41**   Type: **not specified**

Lecture: Introduction to Statistical Learning (Part 1)

Monday 18 September 2023 10:00 (1 hour)

The course package covers foundations and recent advances of machine learning techniques, including:
● Basic concepts: Linear regression, nearest neighbour, parametric vs.
non-parametric methods, Bayesian classifiers, the curse of
dimensionality, model accuracy, bias-variance trade-off
● Linear classifiers: linear regression for classification (discriminative
model), linear discriminant analysis (generative model)
● Nonlinear classifiers with Ensemble learning: Decision trees, random forests, boosting
● Unsupervised learning: Gaussian mixture models, k-means
Our course aims to provide participants with not only a theoretical
foundation, but also the practical skills needed to use and develop
effective machine learning solutions to a wide variety of problems. We
illustrate the use of the models in the tutorial throughout the course
with methods implemented in Python.

Presenter: PENG, Tingying (Helmholtz Munich)

Session Classification: Course Package 12 (Helmholtz AI)