The course will take place in Heidelberg at the University Campus ‘Im Neuenheimer Feld’.

Deadline for registration is December 26, 2019.

The fee for the course is € 645; discounted rate for affiliated with a university € 430.

The cancellation policy is as follows: 75% refund for cancellations after January 02, no refund for cancellations after January 09, 2020.

Attendee substitutes may be made at any time.

Costs and schedule: www.vrn.de
Aims
Course participants will be able to:

Course content
The course will cover the following topics:
- Regularization methods for linear regression
- Model assessment and selection
- Neural networks
- Decision trees
- Random forests
- Bagging and boosting

Pre-requisites
The participants must have
- Basic knowledge of statistics and probability theory
- Basic knowledge in R

Schedule
Thursday
9:00 – 10:30 Introduction (Machine Learning vs. Data Mining, Supervised vs. Unsupervised, etc.)
11:00- 12:30 Regularized regression methods I
13:30-15:00 Regularized regression methods II
15:30-17:00 Regularized regression methods II

Friday
9:00 – 10:30 Model Assessment and Selection I (e.g. Bias and Variance, AIC, BIC, Subset Selection, Cross Validation, Bootstrap)
11:00- 12:30 Model Assessment and Selection II (e.g. Bias and Variance, AIC, BIC, Cross Validation, Bootstrap Methods)
13:30-15:00 Neural Networks and Deep Learning
15:30-17:00 Neural Networks and Deep Learning

Saturday
9:00 – 10:30 Prototype methods
10:45 – 12:15 Tree based methods (e.g. Decision Trees, Random Forests)
12:45 – 14:15 Ensemble Methods (e.g. Bagging, Boosting)

Number of Participants
The number of participants is limited to 20 per course.

Course instructors
Dr. Katharina Hees
Postdoctoral, TU Dortmund University
Dr. Lorenz Uhlmann
Prof. Dr. Schmid
Thomas Welchowski

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The participants must have
- Basic knowledge of statistics and probability theory
- Basic knowledge in R