Expert Machine Learning with RapidMiner

Course Overview

Expert Machine Learning with RapidMiner is a one-day expert seminar containing a collection of advanced topics in machine learning. It covers essential Ensemble Modeling approaches such as bagging, boosting, and stacking. It introduces more complex supervised machine learning algorithms such as Generalized Linear Models, Deep Learning, and Gradient Boosting. Finally, it also describes more advanced techniques for feature selection such as variance-based feature selection (Principal Components Analysis) and evolutionary search strategies.

After successfully completing this course, participants will have a solid understanding of how RapidMiner Studio can support many more advanced techniques in machine learning well beyond what is included in the basic analyst toolkit. Participants will be able to successfully construct models using cutting-edge algorithms and will understand the most important differences between these algorithms and how to choose the most suitable one based on the project objectives. They will also be prepared to utilize ensemble modeling techniques and advanced feature selection as well for dealing with more complex datasets. Practical exercises during the course prepare students to take the knowledge gained and apply it to their own complex data challenges. The class exercises and labs are hands-on, so students will internalize the topics covered, which will provide a jumpstart to the real world application of these techniques.

Prerequisites & Target Audience

This class is aimed at Analysts and Data Scientists. It assumes a basic knowledge of computer programming principles and higher mathematics (through calculus). It also requires either the successful completion of the basic-level training courses (RapidMiner & Data Science: Foundations and RapidMiner & Data Science: Advanced) or successful completion of the RapidMiner Analyst Certification exam (or functional equivalence in terms of knowledge of RapidMiner and basic data science).

Course Outline
- Ensemble Modeling
  - Bagging (incl. Random Forest)
  - Boosting
  - Stacking
- Advanced Machine Learning Algorithms
  - Generalized Linear Models (incl. Logistic Regression)
  - Deep Learning
  - Gradient Boosting
- Variance-Based Feature Selection
  - Principal Components Analysis
- Evolutionary Search Feature Selection

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