Title: The right algorithm for the right task

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Description

One of the final and central steps in the data science workflow is the choice of an appropriate algorithm for the problem you are trying to solve. Due to the wealth of algorithms included in data analytics libraries and toolkits, the question is often not if there *is* an algorithm for the setting at hand, but rather *which one* is most fit. In addition, the way you formulate your business objective as a data science task can determine the type of algorithm you can apply.

Therefore, the goal of this session is to introduce the participants to the most important data science tasks (classification, clustering, regression, etc.) and provide an overview of the most commonly used algorithms and techniques to solve each of these tasks. For each of the methods, its characteristics, advantages and disadvantages will be explained in order to guide the participants in making a conscious choice in terms of the available data (dimensionality, attribute types, etc.) and the expected model requirements (interpretability, accuracy, scalability, etc.). Finally, the guiding principles to train and evaluate the resulting models will be presented.

Course Outline

- Clustering
- Classification
- Regression
- Deep learning
- Graphical Modeling

Who Should Attend

The course is designed for staff members, technical managers, reliability engineers, quality and production manager of electronic and Microsystems production as well as Master of science and PhD students interested in the field.

Author Bio

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