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Diploma Thesis 'Cluster Validation Techniques'

The 'Department of Knowledge-based Mathematical Systems' at the Johannes Kepler University Linz is offering **a diploma thesis in the field of machine learning, especially cluster validation techniques.**

Clustering techniques are important in order to group any kind of data into separate local regions, also called clusters. The problem in higher dimensional spaces (i.e. dimension > 3) is that the obtained cluster partitions from the grouping process cannot be easily validated as no supervised information is available and a plausible visualization is hardly possible. Hence, it is necessary to apply cluster validation techniques, which measure the quality of a cluster partition appropriately and are able to find the optimal number of clusters.

In this thesis, such techniques should be investigated, described and compared to each other based on some real-world data sets.

Profile/Personal Qualification of the candidate:

Ideally, the candidate should have a completed bachelor in Mathematics/Informatics/Mechatronics or any other technical study and be interested in machine learning techniques. Some prior knowledge in machine learning is welcome but not a strict necessity.

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