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**Master's Basic Module
Datenbanktechnologie**

Topic: Comparing Multivariate Time Series

In contrast to univariate time series, in a multivariate time series every point in time is described by a vector of values instead of a single value. This makes it more challenging to measure the similarity of two time series.

The goal of this Master's basic module is to investigate existing approaches for measuring the similarity of multivariate time series and to look at their advantages and disadvantages.

The work is structured into the following tasks with corresponding outcomes and deliverables:

- **T1: Read up on current research**

The first task is to read (and understand) two research papers on the topic of multivariate time series: "A Method for Comparing Multivariate Time Series with Different Dimensions" and "Clustering multivariate time-series data". This may include reading up on the basic notions of time series analysis.

Outcome: a deeper understanding of multivariate time series analysis.

- **T2: Summarize the techniques**

The second task consists of summarizing the techniques in a report and to discuss their advantages and disadvantages.

Outcome: (part of) a written report summarizing and discussing the techniques.



- **T3: Putting the work in the context of a movie database**

Based on the findings of T2, the final task is to look at the techniques in the context of a similarity measure for time series consisting of extracted visual features of movies. Outcome: (part of) a written report discussing the suitability of the techniques for a specific application domain.

Supervisor: Sven Helmer

Start date: 23.04.2019

End date: 04.06.2019

Exam: 04.06.2019 15:00-16:00 BIN 2.E.13

Department of Informatics, University of Zurich

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Prof. Dr. Michael Böhlen