Data Mining for Marketing Analytics

Period: a.y. 2024/25 – II sem.

Instructor:

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Course description

This course introduces the fundamentals of embedding models and large language models with a focus on marketing research. Students will explore how these models are used to analyze social texts, extract semantic information, and generate automated insights. The course covers theoretical foundations, practical applications, and the social and ethical implications of using artificial intelligence in marketing research. By the end of the course, students will have hands-on experience applying these models to real-world economic datasets and decision making.

Course Material

The required materials are the session slides and a list of suggested readings, which provide multiple perspectives on the research and applications of embedding models and large language models. All materials will be available on Blackboard.

Tentative list of topics

- Introduction to embedding models: theory, techniques, and applications in segmenting markets and analyzing consumer behavior.
- Overview of large language models: architecture, training methods, and evaluation, with a focus on processing and interpreting market data.
- Specific applications: LLM as economic agents, sentiment and topic extraction from economic texts and social media, etc.
- Considerations for practical implementation: data quality, model validation, and ethical issues in applying LLM in market research.

Assessment Methods

Effective class participation includes attendance to the sessions and making an active and constructive contribution to the discussion, asking questions, making constructive comments, and having a positive attitude toward learning. As we go through the course, students will also be required to participate to paper presentation. Students will be evaluated as follows:

Class participation:	20 points
Hands-on exercise:	20 points
Paper discussion:	30 points
Final project:	30 points