

MSM551 Machine Learning and Business Applications 机器学习与商业应用

Level: 5

Credit Units: 5 Credit Units

Language: CHINESE

Presentation Pattern: EVERY JULY

Synopsis:

The rise of machine learning applications has changed the ways different business activities are performed today. This course covers popular machine learning techniques and algorithms in business applications, such as customer segmentation, click-through rate (CTR) prediction, churn prediction, customer lifetime value (CLV) prediction, recommendation engines, and machine learning models for time series data. Students will learn about training data, and how to use a set of data to discover potentially predictive relationships.

机器学习应用的兴起改变了当今商业活动的执行方式。本课程涵盖商业应用中流行的机器学习技术和算法，例如客户细分、点击率 (CTR) 预测、流失预测、客户生命周期价值 (CLV) 预测、推荐引擎和时间序列数据的机器学习模型。学生将学习训练数据，以及如何使用一组数据来发现潜在的预测关系。

Topics:

- Data preprocessing for Machine Learning 机器学习的数据预处理
- Designing Machine Learning Workflows 设计机器学习工作流程
- Supervised vs Unsupervised Learning 监督学习与无监督学习
- Customer Segmentation 客户细分
- Market Basket Analysis 市场购物篮分析
- Click-through Rate (CTR) Prediction 点击率 (CTR) 预测
- Churn Prediction 流失预测
- Customer Lifetime value (CLV) 客户终身价值 (CLV)
- Content-Based Recommendations 基于内容的推荐
- Collaborative Filtering 协同过滤
- Machine Learning for Time Series 时间序列的机器学习
- Use Cases and Decision-Making 应用实例和决策

Learning Outcome:

- Prepare data for machine learning models 为机器学习模型准备数据
- Design machine learning workflows 设计机器学习工作流
- Predict business output variables using machine learning methods 使用机器学习方法预测商业运作输出变量
- Formulate appropriate machine learning models in business 在商业运作中制定合适的机器学习模型
- Evaluate the performance of machine learning models 评估机器学习模型的性能
- Improve business decision making via machine learning applications 通过机器学习应用改进商业运作决策

Assessment Strategies - Regular Semester (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	PRE-CLASS QUIZ 1	10
	PARTICIPATION 1	15
	GROUP BASED ASSIGNMENT 1	25
Overall Examinable Components	ECA	50
Total		100

*The information listed is subject to review and change.