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Master-Seminar

Data Science for Customer Insights

(Univ.-Prof. Dr. Mark Heitmann, summer semester 2024)

Goal

The aim of the seminar is to teach application skills for the advanced analysis of typical marketing data with Python. In particular, the understanding and handling of open-source machine learning methods will be learnt. Seminar participants will be able to extract valuable insights, especially from unstructured data (e.g., social media texts, image data). Furthermore, students should prepare themselves both empirically and structurally for the requirements of a master's thesis using relevant marketing literature.

Contents

Python is one of the most common programming languages in the field of data science. The seminar participants use a google colab notebook as a programming environment. Colab is a browser-based tool, so no technical requirements other than Internet access are necessary.

The seminar is divided into two blocks:

In the first block, the participants are given small tasks and work on them independently with the help of the supervisors to learn the basics of Python programming language for data science tasks and the necessary skills for dealing with machine learning methods.

In the second block, the seminar participants are given an analysis problem in groups of usually 3 people, which is to be developed conceptually and practically. Corresponding data sets are provided for this purpose, which may contain unstructured text or image data in addition to structured data. With the help of machine learning, a deeper understanding of customer behavior is developed and customer behavior is predicted.

The analysis results and analytical procedures are reflected on and discussed in application-oriented group work and in the form of a seminar presentation.

Durchführung

Contact person	[Maximilian Witte](#) Or supervisor of the seminar paper
Applicability	Compulsory seminar in the specialization "Marketing", free elective area or general business administration (module code MA-MAMA 5)
Semsester hours per week and credit points	2 SWS, 6 credit points
Language	English
Participation requirements	High affinity for data analyses and a high degree of independence in the acquisition of practical application knowledge required. Strong team-orientation required (group work). Participation in all seminar dates is mandatory. Allow sufficient time for familiarization with Python programming, solving the exercises, working on the actual analysis problem and preparing the seminar paper and presentation.
Examination performance	Introductory tasks (10%) + seminar paper (50%) + presentation (40%) (all examinations must be passed)
Seminar paper	Group work (usually 3 persons, approx. 10 pages per person). Please follow the chair's instructions for scientific work, as they also apply to final theses.
Seminar presentation	Group presentation (usually 3 persons, approx. 10 minutes per person)
Literature	Scheier, C; Held, D (2019): „Künstliche Intelligenz in der Markenführung: Der effiziente Weg den Erfolg von Marken zu steuern", in Haufe, 1. Auflage. Berger, J; Humphreys, A; Ludwig, S; Moe, W; Netzer, O; Schweidel, D (2019): „Uniting the Tribes: Using Text for Marketing Insight", Journal of Marketing 84/1, 1-25. Hartmann, J., Heitmann, M., Schamp, C., & Netzer, O. (2021). The power of brand selfies. *Journal of Marketing Research*, *58*(6), 1159-1177. Liu, L., Dzyabura, D., & Mizik, N. (2020). Visual listening in: Extracting brand image portrayed on social media. *Marketing Science*, *39*(4), 669-686.
Dates	Kickoff: 02.02.2024, 16:00-20:00 Discussion of introductory tasks: 05.04.2024 16:00 – 20:00 Block seminar (1): 28.06.2024, 16:00 – 20:00 Block seminar (2): 29.06.2024, 09:00 – 18:00 Block seminar (2): 30.06.2024, 09:00 – 18:00
Registration	via STiNE