

MACHINE LEARNING IN MARKETING: AN OVERVIEW AND LEARNING STRATEGIES

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ABSTRACT

Artificial intelligence (AI) and machine learning (ML) have yet to make a significant impact on many aspects of society, including marketing. Despite this shortcoming, ML has a number of potential advantages, including the ability to use more robust approaches for generalizing scientific results. This monograph has four objectives in order to address this deficiency. First, to give marketing an overview of machine learning (ML), including a look at the many types (supervised, unsupervised, and reinforcement learning) and algorithms, as well as the relevance of ML to marketing and the overall process. Second, to examine two possible ML learning strategies for marketing researchers: bottom-up (which requires a strong background in general math and calculus, statistics, and programming languages) and top-down (which focuses on the implementation of ML algorithms to improve explanations and/or predictions given within the researcher's domain of knowledge). The third purpose is to look at machine learning applications that have been published in top-tier marketing and management journals, books, and book chapters, as well as recent working papers on a few interesting marketing research sub-fields. Finally, the monograph's final goal is to discuss the potential impact of ML trends and future developments on the field of marketing.

Keywords: Artificial Intelligence, Machine Learning, Marketing, Strategies.

INTRODUCTION

Artificial Intelligence (AI) and, more particularly, machine learning; can play a critical role as a research tool in the marketing industry, according to Machine Learning in Marketing. Machine learning's main purpose is to generalize beyond the examples provided by training data, in search of generalizability. As a result, one of machine learning's potential benefits to marketing is its robustness in the development, testing, and generalization of scientific discoveries (Ansari et al., 2000). With these many academic and practical viewpoints in mind, the purpose of this book is to present a marketing overview of machine learning as well as an analysis of the required learning, applications, and future advances involved in applying machine learning to marketing (Blanchard et al., 2017).

Next a brief introduction, the following part presents an overview of machine learning, including a discussion of the various types, methods, and applications in marketing. Following that, a typical machine learning workflow is presented, followed by two different learning methodologies that management/marketing researchers interested in machine learning can utilize (Dwork et al., 2006; Tillmanns et al., 2017). Following that, a descriptive examination of machine learning applications published in top-tier marketing and management journals, books, book chapters, and recent working papers that investigate a handful of the most promising marketing research sub-fields follows. Following that, the author analyses how machine learning trends and future advances may affect the field of marketing. The final portion highlights the contributions, limitations, and future research recommendations (Ansari et al., 2018).

CONCLUSION

The goal of this paper was to present an overview of the requirements, contributions, and impacts of machine learning in the field of marketing. It also provides an overview of AI and machine learning, including its key methodologies, most essential algorithms, marketing relevance, and how marketing researchers may learn ML. It also examines published studies and promising working papers on machine learning applications, as well as potential advances in machine learning for the marketing area. Researchers should not anticipate machine learning to transform the nature of marketing, despite its huge potential to facilitate the generation of new marketing knowledge. It is not going to happen. ML, on the other hand, has the ability to minimise some of the field's flaws. The negative implications of the "*replication problem*" could, for example, be addressed using ML. A lack of statistical power, inadequate experimental designs, and a lack of rigorous analytical methods are all factors that contribute to such a crisis.

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