

Anticipatory Modeling of Product Purchases

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Abstract: *In the digital era of e-commerce, predicting and comprehending customer behavior is fundamental to achieving business success. This project employs machine learning methodologies to analyze user interactions within an online platform and forecast their likelihood of making a purchase. The dataset encompasses diverse user activities, including clicks, additions to the basket, and interactions with specific features, with the ultimate goal of predicting the binary target variable 'ordered.' The project revolves around the utilization of a Random Forest Classifier, a robust algorithm chosen for its capability to unravel intricate relationships within the dataset. Through this classifier, we aim to uncover the nuanced patterns that influence a user's decision to convert. The significance of this endeavor lies in its potential to provide actionable insights for businesses. By deciphering the complexities of user behavior, organizations can optimize their strategies, tailor marketing efforts, and elevate the overall user experience. The project's impact extends beyond accurate predictions; it aspires to contribute to the evolution of online platforms, fostering an environment that is not only predictive but also responsive to the dynamic needs of digital consumers. This abstract encapsulates the essence of our exploration, emphasizing the transformative potential of machine learning in shaping the future of e-commerce.*

Keywords: E-commerce, Machine Learning, User Behavior, Predictive Modeling, Business Insights, Optimization, User Experience, Digital Consumers, Transformation, Responsive Environment