The Role of Artificial Intelligence in Predicting Academic Procrastination: A Review

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Abstract

Academic procrastination is a common problem in education, affecting student performance and success. While traditional methods of studying procrastination frequently rely on self-reports and surveys, recent advancements in Artificial Intelligence (AI) provide novel possibilities for predicting and addressing procrastination behaviors. However, the literature lacks a comprehensive understanding of AI's role in predicting academic procrastination. This review paper fills this gap by investigating the use of AI techniques such as machine learning and deep learning algorithms to predict academic procrastination. Using the PRISMA framework, the review summarizes findings from various studies that use AI to analyze factors such as student demographics, online learning behaviors, and academic performance metrics. The methodology entailed screening and selecting studies based on criteria such as the use of AI in educational settings and the emphasis on predicting procrastination. Procrastination is influenced by age, gender, entry grades, and submission patterns, as well as challenges such as data privacy, algorithmic bias, and variability across educational settings. For example, biases in training data can result in unrelated predictions for specific demographics, and ethical considerations are essential for responsible AI integration. The review discovered that AI techniques can accurately identify at-risk students, allowing for preventive measures that improve academic outcomes. It also highlights the importance of ethical considerations and tailored AI models that account for contextual differences. The findings show AI's transformative potential in education, providing actionable insights for reducing procrastination and fostering student success.

Keywords: *Academic Procrastination, Artificial Intelligence in Education, Predictive Analytics*