عنوان مقاله:

Analyzing Navigational Data and Predicting Student Grades Using Support Vector Machine

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خلاصه مقاله:

The advent of Learning Management System (LMS) has unfolded a unique opportunity to predict student grades well in advance which benefits both students and educational institutions. The objective of this study is to investigate student access patterns and navigational data of Blackboard (Bb), a form of LMS, to forecast final grades. This research study consists of students who are pursuing a Networking course in Information Science and Technology Department (IST) at George Mason University (GMU). The gathered data consists of a wide variety of attributes, such as the amount of time spent on lecture slides and other learning materials, number of times course contents are accessed, time and days of the week study material is reviewed, and student grades in various assessments. By analyzing these predictors using Support Vector Machine, one of the most efficient classification algorithms available, we are able to project final grades of students and identify those individuals who are at risk for failing the course so that they can receive proper guidance from instructors. After comparing actual grades with predicted grades, it is concluded that our developed model is able to accurately predict grades of ۷۰% of the students. This study stands unique as it is the first to employ solely online LMS data to successfully deduce academic outcomes of students.

کلمات کلیدی:

Educational Data Mining; Machine Learning; Learning Management System; Support Vector Machine; Classification Algorithms; Grades Prediction

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