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Summary of: <https://www.sciencedirect.com/science/article/pii/S1877050915036182>

A Review on Predicting Student's Performance Using Data Mining Techniques

Summary:

This study was a meta-analysis of 30 different studies on educational data mining. First, they searched for relevant and recent studies in the field. Then, they grouped the criteria for determining how well a student would do (attributes) into several categories. They then began their meta-analysis of how well different prediction methods worked to determine student performance. They determined that neural networks were the most utilized and most effective methods of predicting student performance, followed by decision trees. The least effective method was the Naive Bayes algorithm. The attributes most effective in determining student success were internal assessments (grades in the class such as quiz and homework grades) and external assessments (final exam scores), especially when used in conjunction with one another. Only one method by itself was less effective. Demographic factors also proved to be relevant. Psychometric factors (scores of motivation reported by the student or teacher) proved to be less effective, most likely due to the difficulty of getting valid data and the qualitative nature of the data which does not lend itself well to being used with neural networks.

Difficulties:

1. I did not know what a Naive Bayes algorithm was, so I had to look that up
2. I did not know what a K-nearest neighbor algorithm was, so I had to look that up
3. I did not know what a Support Vector Machine algorithm was, so I also had to look that up