

ABSTRACT

STUDY PROGRAM RECOMMENDATION SYSTEM USING MACHINE LEARNING FOR HIGH SCHOOL STUDENTS (CASE STUDY: DARMAJAYA INSTITUTE OF INFORMATICS AND BUSINESS)

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Selecting the right study program is one of the biggest challenges for high school students in planning their academic careers and professional futures. This research aimed to develop a Study Program Recommendation System based on a Support Vector Machine (SVM) to assist students in determining the choice of study program by academic profile, family background, and personal interests. This system utilized data such as academic grades, parents' income, type of school, and student interests to produce accurate recommendations. The SVM algorithm was used with several kernels, namely Linear Kernel, Polynomial Kernel, Radial Basis Function (RBF), and Sigmoid Kernel, to perform classification and prediction. Data collected through the preprocessing process was used to train and test the SVM model. The research showed that the SVM method can provide recommendations suitable for the student's profile, helping them make a more targeted decision in choosing a study program. This system is beneficial for institutions too, especially the Darmajaya Institute of Informatics and Business, in managing new student admissions more effectively. With the existence of this recommendation system, it is hoped that it can increase student satisfaction in the selection of study programs and reduce the mismatch in the choice of major in the future.

Keywords: Recommendation System, Support Vector Machine, Study Program, Machine Learning, High School