

ABSTRACT

AFIFAH MAHARANI, *Comparison of SVM and KNN Algorithms in Predicting Academic Interest of Management Students at Muhammadiyah University of Makassar (Supervised by Fahrir Irhamna Rachman and Rizki Yusliana Bakti ST., MT)*

This research aims to compare the performance of Support Vector Machine (SVM) and K-Nearest Neighbors (KNN) algorithms in predicting academic specialization preferences of students in the Management Study Program at Universitas Muhammadiyah Makassar. The dataset consists of core course grades from students of the 2018 to 2021 cohorts, processed and classified into three concentrations: Human Resources, Marketing, and Finance. The models were evaluated using accuracy, precision, recall, and f1-score metrics. The results show that the SVM algorithm with RBF kernel and a test size of 0.1 achieved the best accuracy of 70.55%, while the KNN algorithm with $k=5$, Euclidean metric, and a test size of 0.1 achieved an accuracy of 57.53%. In conclusion, the SVM algorithm outperforms KNN and is more suitable for academic interest prediction systems.

Keywords: *Academic Specialization, Support Vector Machine, K-Nearest Neighbors, Prediction, Machine Learning.*