Sistem Rekomendasi Pemilihan Kelas Berdasarkan Minat Siswa Menggunakan *K-Means Clustering* untuk Kelas X Berbasis Web (Studi Kasus SMA Giki 1 Surabaya)

Clarenza Dixie Rose[1], Bernadus Anggo Seno Aji[2], Farah Zakiyah Rahmanti[3]

[1,2,3]Program Studi Teknologi Informasi, Fakultas Informatika, Universitas Telkom, Surabaya
[1*] clarenzadixie@student.telkomuniversity.ac.id, [2*] farahzakiyah@telkomuniversity.ac.id,
[3*] bernadus@telkomuniversity.ac.id

Abstract

SMA Giki 1 has a large number of grade 10th students and the need to provide class recommendations based on student interests in current subjects is done conventionally. This study aims to help schools make more informed decisions in class selection. This study implements a web recommendation system. The recommendation system is built using the K-Means Clustering method and integrated into the web using Tkinter as a standard GUI library in Python. This implementation aims to make it easier for schools to determine class recommendations for students. The results of the K-Means algorithm produce 4 clusters, namely in cluster 1 recommended classes with good academic interest and performance in Indonesian, Social Studies, and Mathematics, in cluster 2 recommended classes with good academic interest and performance in English, in cluster 3 recommended classes with good academic interest and performance in Indonesian and Science, and cluster 4 recommended classes with good academic interest and performance in English and Science, with the Silhouette Score results giving a score of 0.6233 which indicates the score calculation is at 0 that the data point is at or very close to the boundary between the 2 clusters and the distribution of the groups is close to the central data point of each cluster.

Keywords: K-Means Clustering, Recommendation System, Student, Interest