

## ABSTRAK

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Judul Proposal Penelitian : Penerapan Algoritma Decision Tree C4.5 untuk  
Prediksi Kenaikan Kelas Siswa MI Al-Hidayah  
Kembangan  
Pembimbing : Dr. Afiyati, S.Si, MT

Dalam penelitian ini, algoritma Decision Tree C4.5 digunakan sebagai model prediksi kenaikan kelas siswa di MI Al-Hidayah Kembangan. Analisis menggunakan data akademik siswa, seperti nilai ujian penilaian akhir tahun. Untuk prosesnya mempersiapkan dataset, dilakukan proses pengumpulan data, dan preprocessing data dilakukan untuk membangun model prediksi algoritma decision Tree C4.5. Metrik seperti akurasi, presisi, dan recall digunakan untuk menilai model yang diharapkan bahwa hasil penelitian ini akan memberikan wawasan tentang faktor yang mempengaruhi kenaikan kelas siswa. Di sisi lain, penerapan algoritma Decision Tree C4.5 diharapkan dapat menjadi dasar untuk pengambilan keputusan di bidang pendidikan. Studi ini menjelaskan bagaimana teknologi data mining dapat membantu pengambilan keputusan dan pengelolaan data akademik di sekolah dasar.

**Kata kunci:** data mining, algoritma C4.5, kenaikan kelas, prediksi, siswa.

## ABSTRACT

Name : Ahmad Baedhawi  
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Title Research Proposal : Application of the C4.5 Decision Tree Algorithm to  
Predict Class Promotion for MI Al-Hidayah  
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In this research, the Decision Tree C4.5 algorithm is used as a prediction model for student grade advancement at MI Al-Hidayah Kembangan. The analysis uses student academic data, such as end-of-year assessment test scores. For the process of preparing the dataset, the data collection process is carried out, and data preprocessing is carried out to build a prediction model for the C4.5 Decision Tree algorithm. Metrics such as accuracy, precision, and recall are used to assess the model with the hope that the results of this research will provide insight into the factors that influence student grade advancement. On the other hand, it is hoped that the application of the Decision Tree C4.5 algorithm can become the basis for decision making in the education sector. This study explains how data mining technology can help decision making and management of academic data in elementary schools.

**Keywords:** data mining, C4.5 algorithm, class advancement, prediction, students.