

## **ABSTRACT**

### **IMPLEMENTATION OF DATA CLASSIFICATION WITH DECISION TREE METHOD AND ALGORITHM C 4.5 TO PREDICT STUDENT STUDY PERIOD (CASE STUDY: INDUSTRIAL ENGINEERING STUDY PROGRAM TELKOM UNIVERSITY )**

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Industrial Engineering Study Program is one of the courses in the University of Telkom which has produced many graduates until the year 2018. However, not all graduates are able to complete their course for four years or a normal study period. Given the increase in the number of students who graduated on time at the University of Telkom Industrial Engineering study Program by 3%, to maintain such value should be known attribute that is a factor of timeliness of student study. To solve the problem there are several ways, and one of them is to create a predictive model of student graduation that can be obtained from the data classification process using the decision tree method with the C 4.5 algorithm against the record Academic data of existing students, so there are two groups of students, namely students who are predicted to pass on time and students are predicted to pass late. The data classification process is done with the help of open source based tools using RapidMiner application. The classification results obtained in the form of predictive models that have an accuracy value of 68.87% and stated that the most influential factor in predicting the graduation of students in the University of Telkom Industrial Engineering study Program is TAK. The results of the analysis classification of the student graduation will be expected to serve as a basic reference to support the Academic planner in making the right decision towards the student groups produced so that all Students can pass on time.

**Keywords:** Student graduation prediction, data classification, decision tree, C 4.5 algorithm