

## ABSTRACT

### PREDICT STUDENT GRADUATION TIME USING C4.5 ALGORITHM (CASE STUDY: FACULTY OF INFORMATICS ITTP)

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*Graduating on time is one of the indicators in the achievement and ranking of educational institutions. Achieving timely graduation at educational institutions is very important to balance between incoming and graduating students. The problem that occurs, the attribute of on-time graduation has varying weights, so it is necessary to know the determinants of the on-time graduation attribute so that the anticipation of achieving on-time graduation can be fulfilled. The purpose of this research is to improve study program policies in the FIF ITTP environment in predicting student graduation on time, as well as obtaining the best level of accuracy in using the C4.5 Algorithm. There are 7 attributes used, namely SKS (Semester Credit Unit), Semester Grade Index Score (IPS) from semester 1 to semester 6 IPS scores. The method used is Algorithm C4.5 which is one of the classification methods in data mining. Data was collected through SIS FIF ITTP with a total of 587 student data who had already carried out the Yudisium. Data division uses K-Fold Validation with 5 splits, namely the percentage of training data and test data, namely 80:20. The decision tree using Algorithm C4.5 shows a suitable algorithm in predicting FIF ITTP student graduation with a root node, namely the IPS5 attribute. In addition, predictions based on the decision tree Algorithm C4.5 with the best max\_depth, which is as deep as 3, show an accuracy of 84%. Future research needs to add more accurate data so that it fits into the prediction of FIF ITTP student graduation.*

**Keywords:** *C4.5 Algorithm, Data Mining, Graduation, Prediction, Root*