

ABSTRACT

FRAMEWORK DESIGN FOR EARLY WARNING SYSTEMS FOR STUDENTS PERFORMANCE USING ZACHMAN FRAMEWORK AND FUZZY ANFIS METHODS IN TELKOM UNIVERSITY ONLINE LEARNING

By:

Rizki Afif Finata

NIM: 2201160008

(Master of Industrial Engineering Study Program)

The world of education in Indonesia is developing rapidly along with the development of Science and Technology (IPTEK) which, with its existence, is expected to be able to support operational activities in educational institutions, especially tertiary institutions, making this a strategic effort of universities to have a competitive advantage. compared to other colleges.

After observing and analyzing, it is known that at Telkom University a phenomenon occurs that shows that the management target has not been achieved for student graduation points in the course. Telkom University itself has a performance monitoring system from a study program that contains one completion level of courses in each semester, but the monitoring process is carried out manually based on the results of scores or recapitulation of values that have appeared in the academic information system used, i.e. Igracias

This study aims to design an intelligent framework for predicting assessments of student academic performance using the Adaptive Neuro Fuzzy Inference System (ANFIS) method in the online lecture system, as well as designing an intelligent framework for monitoring student academic performance in the online lecture system that can minimize the number of student graduation in courses using the Zachman Method. The object of this research was conducted at the higher education institutions, namely Telkom University.

In the intelligent framework design for assessment predictions of student academic performance using the Adaptive Neuro Fuzzy Inference System (ANFIS) method in the online lecture system it can be concluded that the assessment prediction model using ANFIS has the smallest error value in the training data that is 0,000689 in the Gbellmf membership function and has the smallest error value in the testing data that is equal to 0.57304 and reaches the optimum point on the 600th epoch. In the intelligent framework design for monitoring student academic performance using the Zachman Method, Telkom University in this case can shorten the processing time, research and modeling of academic information system application that is integrated with the early warning system. This is because the use of the Zachman framework is carried out mapping from the user to the information architecture as well as the linkages of each stage into the Zachman Framework columns.

Keyword: Early Warning System, Fuzzy ANFIS, Zachman Framework