

PREDICTING FRESHMEN ENGINEERING STUDENTS SUCCESS USING
ARTIFICIAL NEURAL NETWORK BASED EMOTIONAL INTELLIGENCE
MODEL

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ABSTRACT

This paper investigates a sensitivity analysis of key Emotional Intelligence (EI) indicators used in an Artificial Neural Network (ANN) for predicting freshmen students' success in Engineering. This process of forecasting student success involves technical analysis. EI must have low noise or errors, which would otherwise cause inaccurate solutions and forecasts. This paper focuses on the data input selection based on the relative contribution of selected EI indicators and selecting a final set of inputs based on the strength of prediction. Three different ANN architectures are compared along with relative weights of key EI indicators. The contribution of EI indicators, and the ability of each ANN model with respect to student success are determined. The models are later fitted to real-world EI data over an adequate semester-to-semester time period.

Keywords

Neural Networks, Forecasting, Sensitivity, Emotional Intelligence, Modeling.