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Abstract

A Hybrid Model of Tree Classifier and Neural Network for University Admission Recommender System

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University or college admission is a complex decision process that goes beyond simply matching the test scores and the criteria requirements by the institutions. In the past, there have been research studies advocating that the students' backgrounds and other factors correlate to the performance of their tertiary education. However, almost all admission and enrollment studies are based on the perspective of universities or colleges, but there are a few studies based on the perspective of secondary schools.

This thesis presents a hybrid model of neural network and decision tree classifier that serves as the core design for a university admission recommender system. The system was tested with live-data from sources of Macau secondary school students. In addition to the high prediction accuracy rate, flexibility is an advantage such that the system can predict suitable universities that match the students' profiles and the suitable approaches through which the students should enter. The recommender can be generalized into making different kinds of predictions based on the students' histories.

Keyword: University admission recommender, Classification, Neural network, Decision tree