**Prediction Model for Students’ Future Development by Deep Learning and Tensorflow Artificial Intelligence Engine**

**Abstract**

Classification and prediction of students’ performance in examination are the typical challenges for educators. Various traditional data mining methods such as decision tree and association rules were used to perform classification. In recent years, the rapid development of artificial intelligence and deep learning algorithm provided another approach for intelligent classification and result prediction. In this paper, a research on how to use Tensorflow artificial intelligence engine for classifying students’ performance and forecasting their future universities degree program is studied. An appropriate and accurate forecast is important for providing prompt advice to student on program and university selection. For a more comprehensive consideration of an all rounded factors, the deep learning model analysed not only the traditional academic performance including Mathematic, Chinese, English, Physics, Chemistry, Biology and History, but also non-academic performance such as service, Conduct, Sport and Art. A few parameters in Tensorflow engine including the number of intermediate nodes and number of deep learning layers are adjusted and compared. With a data set of two thousands students, 75% of these data are used as the training data and 25% are used as the testing data, the accuracy ranged from 80% to 91%. The optimal configuration of the Tensorflow deep learning model that achieves highest prediction accuracy is determined. This study determined the factors affecting the accuracy of the prediction model.

**Existing System**

How to predict students’ performance is always a question concerned by the students’ teachers and parents. Based on the past examination results and in-class assessments, it is possible to forecast the future development of the students. It is a challenging and important matters as it involves the large volume of data in educational databases and the result could impact the future development of a young kid. A good and accuracy prediction could bring the benefits and impacts to students, educators and academic institutions. Various type of data mining techniques had been used for performance prediction for past decades but not satisfactory.

**Disadvantages:**

* There is limited research in students’ performance.
* Not suitable results.

**Proposed System:**

In this paper, we will investigate how to use artificial intelligence and deep learning algorithm for pattern recognition and correlation of assessment results. There are some traditional data mining techniques that have been used to predict students’ performance. Some researches educational data mining method had been done to identify those important attributes in students data. Neural network is another emerging technique used in educational data mining. The advantage of neural network is that it has the ability to detect all possible interactions between predictors variables. When more computing power is nowadays available, more layers of neural network can be implemented and deep learning analysis can be practically implemented. Deep learning could perform detection even in a complex nonlinear relationship between dependent and independent variables. It is considered as one of the best prediction method.

**Advantages:**

* Best Prediction for student performance.
* Calculating student performance using ML techniques.

**SYSTEM CONFIGURATION:**

**Hardware requirements:**

Processer                     :           Any Update Processer

Ram                             :           Min 4 GB

Hard Disk                   :           Min 100 GB

**Software requirements:**

Operating System       :           Windows family

Technology                 :           Python 3.6

IDE : PyCharm