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Placement Portal and Prediction System

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Abstract - *The major problem that lies ahead of the students eligible for placements is the selection of companies they should prepare for. To provide a solution to this problem we propose a student portal and prediction system that will provide the probability for success of a student for the various companies he wishes to apply for. This will help the student narrow down options and thereby prepare more efficiently and selectively for the placement process. The system uses a logistic regression model to narrow down companies and predict the success rate for a student.*

Key Words: prediction, companies, student, portal, logistic regression

1. INTRODUCTION

The predictive models can act as a tool to provide the information of students about their performance in the classroom and their chances of placement which in turn help the authorities to take informed decisions and maximize the results of the efforts made by the institutions. Students studying in final or pre – final year of an Engineering college start feeling the pressure of the placement season with so much of placements activities happening around them. They feel the need to know where they stand and how they can improve their chances of getting placed. There are many factors that affect a student's placement. To list a few, the marks scored by the student in 10th,12th and the aggregate in Engineering, backlogs, communication skills, etc. which are tested during the hiring process.

1.1 Data Set Description

Since we wanted to create a real time model we created our own data set by performing a survey across various engineering colleges of Mumbai, India. The survey consisted of the questionnaire regarding questions about Quants, their CGPA, logical representation, programming knowledge, their verbal skillset, their networking skillsets and other various factors.

1.2 Model Selection

A vast array of machine learning algorithms and concepts can be considered for the implementation. For the placement prediction model, we tried various approaches like SVM, K-nearest Neighbour and Logistic Regression. We considered using logistic regression to enhance the efficiency of the model and also as it offered the highest accuracy. It is a college centric model whose frontend involves a website that serves as a login portal for students. It provides facilities like quiz, registration, information about various companies, reviews of the alumni and a lot more. The prime functionality of the model that makes it different from any college portal is the placement prediction facility. Placement Prediction System predicts the probability of a undergrad student getting placed in an IT company by applying the machine learning model of logistic regression.

2. Hardware and Software Requirements

These Requirements are the minimal configurations of a device and software required for the model to work properly and efficiently.

2.1 Hardware requirements

- Graphics Processing Unit (GPU).
- Intel Core i3 processor or above

2.2 Software requirements

- Windows 7 or above / Linux.
- Python 2.7 or above.
- Jupyter Notebook.
- Xampp
- Apache
- MySql
- PHP

3. METHODOLOGY

The prediction model aims at providing respectable accuracy and speed in successful estimation of a student getting placed in a company. The training dataset was obtained by conducting surveys and tests across various engineering colleges over a span of two years. This data was then compared with the placement data of these colleges. This data served as the test data for the model. The factors impacting the placement probability were narrowed down to 11 by eliminating factors that showed poor co-relation with the actual placement factor. These include the CGPA, survey test scores and quality assurance factor.

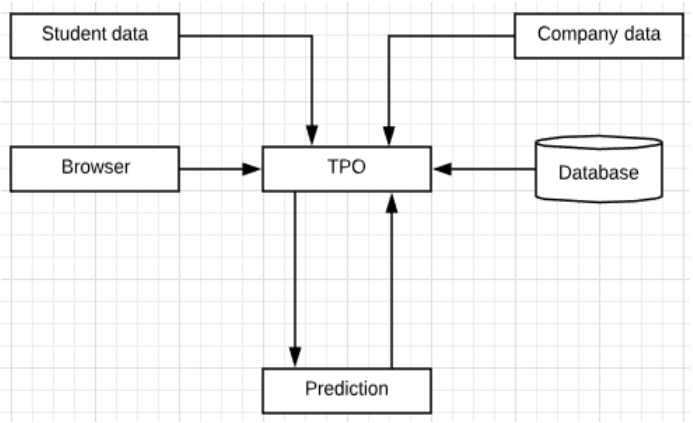

Fig 1: Block Diagram

3.1 WORKING

The user test result data gets stored in a relational database. After analysis of this data it is classified into broad features like Quants score, Verbal score etc. these scores clubbed with the student's CGPA serve as input features for the logistic regression model. After performing logistic regression, the model determines whether a student is likely to be placed in a company

3.2 LOGISTIC REGRESSION

Logistic regression is a statistical model that in its primary form makes use of a logistic feature to model a binary based variable, even though many extra complex extensions exist. In regression analysis, logistic regression (or logit regression) is estimating the parameters of a logistic version (a form of binary regression).

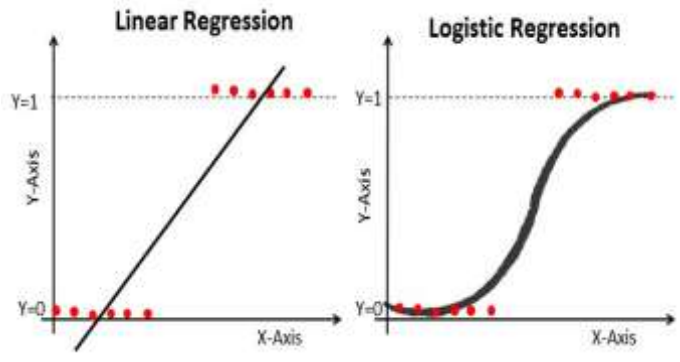

Fig 2: Comparison of linear and logistic regression

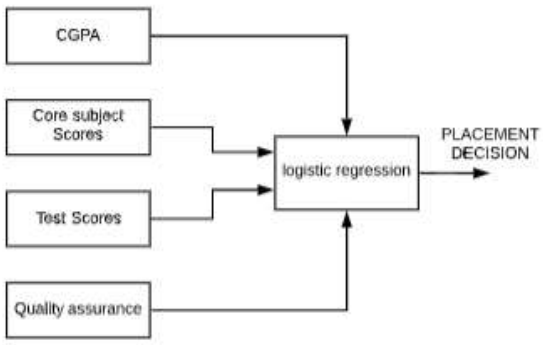

Fig 3: Block Diagram of Working

4. RESULTS

The results were compared with real time data collected from various colleges over a span of 2 years. This serves as the test data. The results include a prediction whether a student is likely to be placed in a company.

Based on the prediction a student can decide whether or not to sit for the placement of a specific company.

```
# Fitting Logistic Regression to the Training set
from sklearn.linear_model import LogisticRegression
classifier = LogisticRegression(random_state = 0)
classifier.fit(X_train, y_train)

# Predicting the Test set results
y_pred = classifier.predict(X_test)

# Making the Confusion Matrix
from sklearn.metrics import confusion_matrix
cm = confusion_matrix(y_test, y_pred)

print ("Accuracy is ", accuracy_score(y_test,y_pred)*100)
```

```
Accuracy is  72.72727272727273
```

5. CONCLUSION

Predicting the placement of a student gives an idea to the Placement Office as well as the student on where they stand. Not all companies look for similar talents. If the strengths and weaknesses of the students are identified it would benefit the student in getting placed. The placement Office can work on identifying the weaknesses of the students and take measures of improvement so that the students can overcome the weakness and perform to the best of their abilities. Thus the key lies in assessing the capabilities of the student in the right areas and subjecting them to the right training.

REFERENCES

[1] Syed Ahmed, Aditya Zade, Shubham Gore, Prashant Gaikwad, Mangesh Kolhal "Smart System for Placement Prediction using Data Mining" January, 2007

[2] MeghaGupta ,Pranali Patil ,SanikaArisetty, Shraddha Asthana"PPS – Placement Predic-tion System using Logistic Regression "Standard, 2003

[3] Senthil Kumar Thangavel, Divya Bharathi P, Abijith Sankar"Student Placement Analyzer:A Recommendation System Using Machine Learning "