CHAPTER 24
Campus Placement Prediction using Machine learning Techniques

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ABSTRACT

A placement predictor is to be designed to predict the possibility of a student being placed in a company. The placement predictor takes many parameters of the students, which helps in predicting the student placements. Combining these data points, the predictor is to accurately predict if the student will or will not be placed in a company. Data from past students are used for training the predictor. But the problem was to find a suitable classification algorithm that could do the job with maximum accuracy for our data set. Different algorithms have different accuracy depending on the type of problem it has to solve and the data set it has to work with. So, we decided to select four algorithms, namely SVM linear kernel, Logistic Regression and Naïve bayes and to compare the accuracy levels of each of these algorithms, with respect to our problem and data set. The result of this test would help us in determining which algorithm to use while implementing our predictor in the placement management system.

***Keywords*—** *Classifications, Dataset, Machine learning, Placement*

INTRODUCTION

Campus placement carriers a great significance for all the students and educational institutions. Nowadays, students give special attention to past placements records while selecting an institution for admission. Even the ranking and rating of institutes depend upon the amount of average package and amount of placement they are providing. Hence, the institutions provide certain facilities to improve the student placements. In placement Prediction system predicts the probability of student getting placed in a company by applying algorithm such as Support Vector Machine. The main objective of this model is to predict whether the student gets placed in a company or not in campus   recruitment. For this the data consider is the students CGPA,HSC, SSLC marks

PROPOSEDSYSTEM

HARDWAREREQUIREMENTS

System - Pentium IV 2.4 GHz

Hard Disk - 200 GB

Mouse - Logitech.

Keyboard - 110 keys enhanced

RAM - 4GB

Processor -Intel(R) Core(TM) i3

ProcessorSpeed- 3.06 GHz

SOFTWARE REQUIREMENTS

O/S - Windows 7 & above.

Language - Python

Database -My-SQL

**WebServer** -DJango

Browser -Chrome

SOFTWARE DESCRIPTION

Python

Python is an interpreter, high-level, general purpose programming language. Created by Guido van Rossum and first released in 1991, Python has a design philosophy that emphasizes code readability, notably using significant whitespace. It provides constructs that enable clear programming on both small and large scales

SYSTEMDESIGN

MODULES
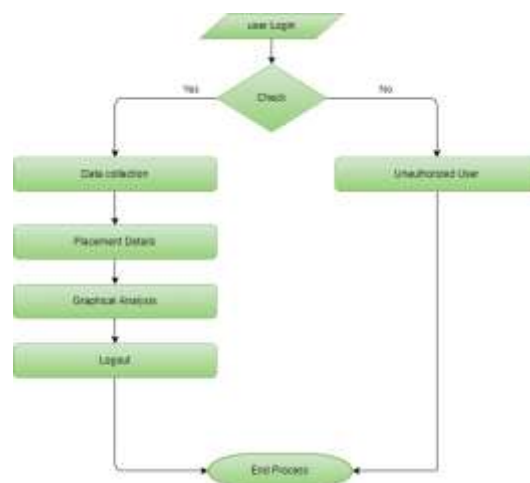
Campus Placement Prediction using Machine learning Techniques

- DataSet Collection

- Data Preprocessing

- Data Splitting

- Prediction

DATASET COLLECTION

A dataset were collected from the placement cell of the college. Past five year records are collected and were split for training and testing.

DATA PREPROCESSING

The pre-processing includes removing the unwanted data from the dataset. Missing data removal: In this process, the null values such as missing values are replaced by zero.

DATA SPLITTING

- Data are required during the machine learning process in order for learning to occur.

- In addition to the data required for training, test data are required to evaluate the algorithm's performance and determine how effectively it works.

- In our procedure, we regarded 70% of the dataset to be training data and 30% to be testing data. • Data splitting is the act of dividing accessible data into two pieces, typically for cross-validation reasons.

- +One portion of the data is used to create a predictive model, while the other is utilized to assess the model's performance.

- Part of analyzing data mining models is separating data into training and testing sets.

PREDICTION

Logistic regression

Logistic regression is one of the most popular machine learning algorithms, which comes under the Supervised Learning technique. It is used for predicting the categorical dependent variable using a given set of independent variables. Logistic Regression can be used to classify the

different types of observations and can easily determine the most effective variables that are needed for the classification.

Support Vector Machine

Support Vector Machine is one of the most popular supervised Learning algorithms which is used for Classification as well as Regression problems. The goal of the SVM algorithm is to create the best line or decision boundary that can segregate n-dimensional space into classes so that
we can easily put the new data point in the correct category in the future.

Naïve Bayes

Naïve Bayes algorithm is a supervised learning algorithm , which is mainly used in text classification that includes a high-dimensional training dataset. It is one of the simple and most effective Classification algorithms which helps in building the fast machine learning models that can make quick predictions.

RESULTS AND DISCUSSION

Figure1: Login page

Figure2: User Details

Campus Placement Prediction using Machine learning Techniques

Figure3:Add Placement Details

Figure5: Upload Student Details for request an appointment

Figure6: Placement details in bar chart

Figure7: Placement in Pie Chart

Campus Placement Prediction using Machine learning Techniques

Figure8: Comparison of the algorithm

This system is able to predict the percentage of student getting placed in a company,based on the past five year student records.

CONCLUSION

Placement prediction system is a system which predicts the placement status of the students. For data analysis and prediction machine learning algorithm are used in python environment. This kind of placement prediction system can help in institutions in analyzing their student placement. This study helps the institutions to know the placement detail in advance.They can hence make effectual strategies and decisions for increasing the institution's overall placement status.

FUTURE ENHANCEMENT

In future, we can include additional experiments with more primal machine learning algorithm. We can obtain more training records by including other engineering departments or majors to generalize the model, and boost the performance of machine learning algorithms.

REFERENCES

Shreyas Harinath, Aksha Prasad, Suma H and Suraksha A. Student Placement Prediction using Machine Learning, International Research Journal of Engineering and Technology (IRJIET) Volume : 06 Issue: 04 April 2019

Usha Rani, "Student's Performance Prediction using Deep Learning and Data mining Methods," International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8, Issue-1S4, June 2019

Neelam Swaroopa," Campus Placement Prediction Using Supervised MachineLearningTechniques,"International Journal of Applied Engineering Research ISSN 0973-4562 Volume 14, Number 9, 2019

Campus Placement Prediction using Machine learning Techniques

MohanaBangale 1, Shubham Bavane ,Akshay Gunjal," Campus A Survey on Placement prediction system using machine learning,"IJSART -Volume 5Issue2 ,FEBRUARY 2019

H. A. Madni, Z. Anwar and M. A. Shah, "Data mining techniques and applications — A decade review," 2017   23rd International Conference on Automation and Computing (ICAC), Huddersfield, pp.1-7, 2017

S. K. Thangavel, P. D. Bkaratki and A. Sankar, "Student placement analyzer: A recommendation system using Machinelearning,"2017 4th International Conference on Advanced Computing and Communication Systems (ICACCS),Coimbatore,pp.1-5,2017.

Ankita A Nichat, Dr.Anjali B Raut "Predicting and Analysis of Student Performance Using Decision Tree Technique" International Journal of Innovative Research in Computer and Communication Engineering V0l. 5, Issue 4, April 2017.

Mangasuli Sheetal B, Prof. Savita Bakare "Prediction ofCampus Placement Using Data Mining Algorithm-Fuzzy logic and K nearest neighbour" InternationalJournal of Advanced Research in Computer and Communication Engineering Vol. 5, Issue 6, June 2016 .

Siddhi Parekh," Results and Placement Analysis and Prediction using Data mining and Dashboard," International Journal of Computer Applications , Volume 137 – No.13, March 2016

Ashok M V and Apoorva A, "Data mining approach for predicting student and institution's placement percentage," 2016 International Conference on Computation System and Information Technology forSustainable Solutions (CSITSS), Bangalore, pp. 336-340, 2016

GetanehBerie Tarekegn, "Application of Data mining Techniques to Predict Students Placement in to Departments," International Journal of Research Studies in Computer Science and Engineering (IJRSCSE) Volume 3, Issue 2, 2016

 M. Gera and S. Goel, "A model for predicting the eligibility for placement of students using data mining technique," International Conference on Computing,Communication & Automation, Noida, pp.114-117, 2015.

Ajay Shiv Sharma, Swaraj Prince, Shubham Kapoor, Keshav Kumar "PPS-Placement prediction system using logistic regression" IEEE international conference on MOOC,innovation and Technology in Education(MITE), December 2014

Campus Placement Prediction using Machine learning Techniques

Jai Ruby1, Dr. K. David2," Predicting the Performance of Students in Higher EducationUsing Data mining Classification Algorithms-A Case Study," International Journal for Research in