

A Survey on Placement prediction system using machine learning

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Abstract- Predicting the performance of a student is a nice concern to the upper education institutions. The purpose of placement management system is to modify the present manual system by the assistance of computerized software system fulfilling their needs, so their valuable data/information is stored for a longer time with simple accessing and manipulation of data. Student's academic achievements and their placement in campus selection is a difficult issue in current manual system. Monitoring the student's progress for his or her campus placement helps in monitoring the student's progression within the academic surroundings. the aim of organizations is to supply superior opportunities to their students. This proposed student prediction system is most important approach which can be used to differentiate the student data/information on the basis of the student performance. Managing placement and coaching records in any larger organization is quite tough because of the large number of students. This system can classify the student knowledge with ease and can be useful to several educational organizations. There are several classification algorithms and mathematics-based techniques which can be taken nearly as good assets for classifying the students' information set in the education field. In Our system, Naïve Bayes, SVM, KNN algorithm is applied to predict student performance which can facilitate to identify performance of students and also provides suggestion to improve performance for students such as we are going to classify the student's knowledge set for placement and non-placement classes based on that result, education organizations can give superior training to their students. Based on data received by system, student's performance is analysed in numerous views to check the achievements of the students through their activities and suggests improvement for better placement.

Keywords- SVM; KNN; placement prediction; classification; Naive Bayes; Machine Learning; Python.

I. INTRODUCTION

The Training and the Placement activity in college is one of the important activities in the life of student. Therefore, it is very important to make a process hassle free so that,

students would be able to get required information as and when they require. Also, with the help of the good system it would be easy for staff of the Training and Placement cell to update students easily and the work would be less. The "College placement Prediction using Machine Learning" is developed to override the problems prevailing in practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by the existing system. Moreover, this system is designed for a need of company to carry out operations in smooth and effective manner. Majority of the companies are focusing on campus recruitment to fill up their positions. The companies identify talented and qualified professionals before they have completed their education. This method is best way to work on a right resource at the right time to get good companies at beginning of their career.

Every organization, whether big or small, has challenges to overcome and managing the information of placement, training, placement cells, technical skill. Every training and placement management system has different training needs; therefore, we design exclusive employee management system that are adapted to your managerial requirements. This is designed to assist in strategic planning and will help you ensure that your organization is equipped with the right level of information and details of your future goals. Also, for those busy executives who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime. These systems will ultimately allow you to manage resources. Students studying in final year of engineering focus on getting employed in reputed companies. The prediction of placement status that B.E students are most likely to achieve will help students to put in a harder work to make appropriate progress. It will also help Faculty as well as placement cell in an institution to provide proper care towards improvement of students in a duration of course. A high placement rate is the key entity in building the reputation of an educational institution. It will also help the placement cell in an institute to provide proper care towards improvement of students. This system has the significant place in the educational system of any higher learning institution.

II. LITERATURE SURVEY

[1] “Data Mining Approach for Predicting Student and Institution's Placement Percentage”, Professor. Ashok M Assistant Professor Apoorva A ,2016 International Conference on Computational Systems and Information Systems for Sustainable Solutions

In this paper author has used the data mining technique for the prediction of the student's placement. For the prediction of student's placement author has divided the data into the two segments, first segment is the training segment which is historic data of passed out students. Another segment consists of current data of students, based on the historic data author has designed the algorithm for calculating the placement chances. Author has used the various data mining algorithms such as decision tree, Naive Bayes, neural network and the proposed algorithm were applied, and decision are made with the help of confusion matrix.

[2] “Student Placement Analyzer: A Recommendation System Using Machine Learning”, Senthil Kumar Thangavel , Divya Bharathi P, Abijith Sankar, International Conference on Advanced Computing and Communication Systems (ICACCS -2017), Jan. 06 - 07, 2017, Coimbatore, INDIA

In this paper author is concern about the challenges face by any institute regarding the placement. The placement prediction is very complex when the number of the entities increases in any institute. With the help of machine learning this complex problem of prediction can be easily solved. In this paper all the academic record of student is taken into consideration. Various classification and data making algorithms are used such as Naïve Bayes, Decision Tree, SVM and Regressions. After the prediction of the students can be placed in of the given category that is core company, dream company or support services.

[3] "A Placement Prediction System Using K-Nearest Neighbors Classifier", Animesh Giri, M Vignesh V Bhagavath, Bysani Pruthvi, Naini Dubey, Second International Conference on Cognitive Computing and Information Processing (CCIP), 2016

The placement prediction system predicts the probability of students getting placed in various companies by applying K-Nearest Neighbors classification. The result obtained is also compared with the results obtained from other machine learning models like Logistic Regression and SVM. The academic history of student along with their skill sets like programming skills, communication skills, analytical skills and team work is considered which is tested by companies

during recruitment process. Data of past two batches are taken for this system.

[4]"Class Result Prediction using Machine Learning", Pushpa S K, Associate Professor, Manjunath T N, Professor and Head, Mrunal T V, Amartya Singh, C Suhas, International Conference On Smart Technology for Smart Nation, 2017

In this paper, the result of a class is predicted using machine learning. Performance of students in past semester along with scores of internal examinations of the current semester is considered to predict whether the student passes or fails in the current semester before attempting the final examination. The author uses SVM, Naive Bayes, Random Forest Classifier and Gradient Boosting to compute the result. Boosting is an ensemble learning algorithm which combines various learning algorithm to obtain better predictive performance.

[5]"Student Placement Analyzer : A Recommendation System Using Machine Learning", Apoorva Rao R, Deeksha K C, Vishal Prajwal R, Vrushak K, Nandini, JARIE-ISSN(O)-2395-4396

Now-a-days institutions are facing many challenges regarding student placements. For educational institutions it is much difficult task to keep record of every single student and predict the placement of student manually. To overcome these challenges, concept of machine learning and various algorithms are explored to predict the result of class students. For this purpose, training data set is historical data of past students and this is used to train the model. This software system predicts placement status in 5 categories viz dream company, core company, mass recruiter, not eligible and not interested in placements. This system is also helpful to weaker students. Institutions can provide extra care towards weaker students so that they can improve their performance. By use Naïve Bayes algorithm all the data will be monitor and appropriate decision will be provided.

III. EXISTING SYSTEM

An educational institute contains student records which is a prosperity of information but is too large for one person to understand in its entirety. Finding necessary characteristics from this data is an important task in educational research. Finding placement status of each student in institute is a tedious task. Hence, the limitation of the system includes time consumption, less efficient and less user satisfaction. Also, this system is the manual process which adds to a limitation.

IV. PROPOSED SYSTEM

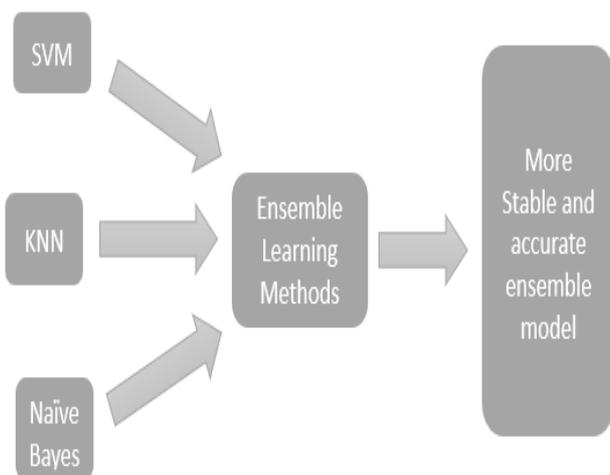
Campus placement of students plays very important role in colleges. Campus placement is the process where companies meet colleges and identify students which are talented and qualified, before they complete their graduation. So, this system makes the work of prediction of placement of student easy. We are developing a system in which the students will register/Login into the system and enter their biodata and skillsets, according to students’ academic details the system will identify whether the student is eligible for the placement and recommend the courses to the students. Admin creates the courses and registers students to the respective courses. Admin can view the courses and students along with their attributes. Admin predicts placement status of current students. If the student is eligible for placement mail will be sent to the student from admin and students names will be displayed on the dashboard in their colleges.

[6] Ensemble methods is a machine learning technique that combines several base models in order to produce one optimal predictive model. To better understand this definition let’s take a step back into goal of machine learning and model building.

The goal of any machine learning problem is to find a single model that will best predict our wanted outcome. Rather than making one model and hoping this model is the best/most accurate predictor we can make, ensemble methods take a myriad of models into account, and average those models to produce one final model.

Proposed Algorithm

Ensemble learning



V. SYSTEM ARCHITECTURE

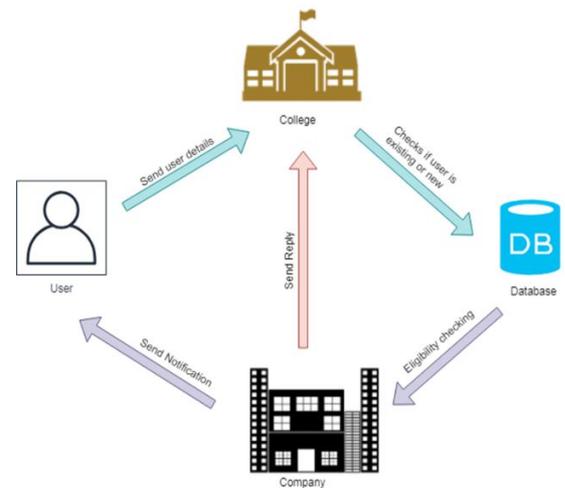


Fig.: System Architecture

Why Ensemble Learning?

- Ensemble methods are used to improve the stability and accuracy of learning models.
- Ensemble methods uses many learning models to construct ensemble models which is comparatively more stable and accurate than used learning models.
- Ensemble method uses some finite ‘K’ number of weak/unstable learning models to build comparatively more stable and accurate ensemble model.

ADVANTAGES OF PROPOSED SYSTEM:

- Manual efforts are less.
- Accuracy is higher compared to other methods.
- Efficient and reliable.

VI. CONCLUSION

This system is helpful for institutions to predict student’s campus placement. This system would help reduce tedious job of manual placement system. The placement officer can work on identifying the weaknesses of each students and can suggest improvements so that the students can overcome the weakness and perform to the best of their abilities.

FUTURE SCOPE

We can use more optimized algorithms for better predictions. We can also integrate online courses and services

for students to improve their skills and knowledge. The system can also be used to predict the suitable courses for higher studies.

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