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Developing Classifiers through Machine Learning Algorithms for Student Placement Prediction Based on Academic Performance

*Prof. Ms Ganga B M[*1], Mr. Shivabasayya B Hiremath[*2], Mr. Prasad V [*3], Mr. Sagar B[*4], Mr. Supreeth S [*5]*

[*1,2,3,4,5] VTU,CSE,ACS College of Engineering,Bengaluru,Karnataka,India
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ABSTRACT

In the time of globalization, understudy arrangement is exceptionally difficult issue for every single instructive establishment. For designing organizations, situation is a critical component to keep up with great positioning in the college as well as in other public and worldwide positioning offices. In this paper, we have proposed a couple of managed AI classifiers which might be utilized to foresee the position of an understudy in the IT business in view of their scholastic execution in class 10th, Twelve, Graduation, and Accumulation till date in Graduation. We additionally think about the aftereffects of different proposed classifiers. Different boundaries used to think about and dissect the aftereffects of various created classifiers are precision score, rate exactness score, disarray network, heatmap, and arrangement report. Arrangement report produced by created classifiers comprises of boundaries accuracy, review, f1-score, and backing. The order calculations Support Vector Machine, Gaussian Innocent Bayes, K-Closest Neighbor, Arbitrary Woodland, Choice Tree, Stochastic Angle Plunge, Strategic Relapse, and Brain Organization are utilized to foster the classifiers. Every one of the created classifiers are too tried on new information which are barred from the dataset utilized in the trial.

Keywords: component, formatting, style, styling, insert (Placement, AIML, Campus Prediction)

I. INTRODUCTION

Position is a conclusive element of effective finish of any coursework at the alumni or postgraduate level. It is a fantasy of each and every understudy to get placed in top MNCs to accomplish their put forth objectives and targets. Planning to put the most extreme number of understudies, the colleges and establishments are stepping up their game by preparing and overhauling their understudies through preparing and position cells. AI is the study of getting PCs to learn, without being expressly modified. Each time you really want your email and a spam channel saves you from being required to swim through lots of spams, once more, that is on the grounds that your PC has figured out how to recognize spam from nonspam email. As indicated by the Samuel "The field of study that gives PC the capacity to learn without being unequivocally customized". This is a more seasoned meaning of AI. Other definition is given by Tom Mitchell "A PC program is said to gain as a matter of fact E regarding some class of undertakings T and execution measure P, assuming it's exhibition at task in T, as estimated by P, improves with experience E".
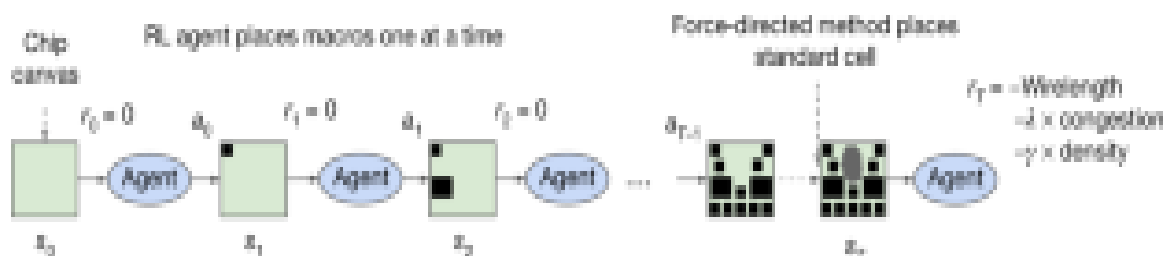
II. METHODOLOGY

Fig. 1: Overview of our method and training regimen.

DATA MINING PROCESS

Knowing the factors for placement of student can help the teachers and administrators to take necessary actions so that the success percentage of placement can be improved. Predicting the placement of a student needs a lot of parameters to be considered. Prediction models that include all personal, social, psychological and other environmental variables are necessitated for the effective prediction of the placement of the students.

A. Data Preparations

The data set used in this study was obtained from VBS Purvanchal University, Jaunpur (Uttar Pradesh) on the sampling method for Institute of Engineering and Technology for session 2008-2012. Initially size of the data is 65.

B**. Data selection and Transformation**

 In this step only those fields were selected which were required for data mining. A few derived variables were selected. While some of the information for the variables was extracted from the database. All the predictor and response variables which were derived from the database

III. MODELING AND ANALYSIS

Linear Regression

Linear regression is a supervised machine learning algorithm where the predicted output is a continuous and has a constant slope. It is used to predict values within a continuous range, (e.g., Sales and price). Linear regression is a very simple method but has proven to be very useful for a large number of situations.
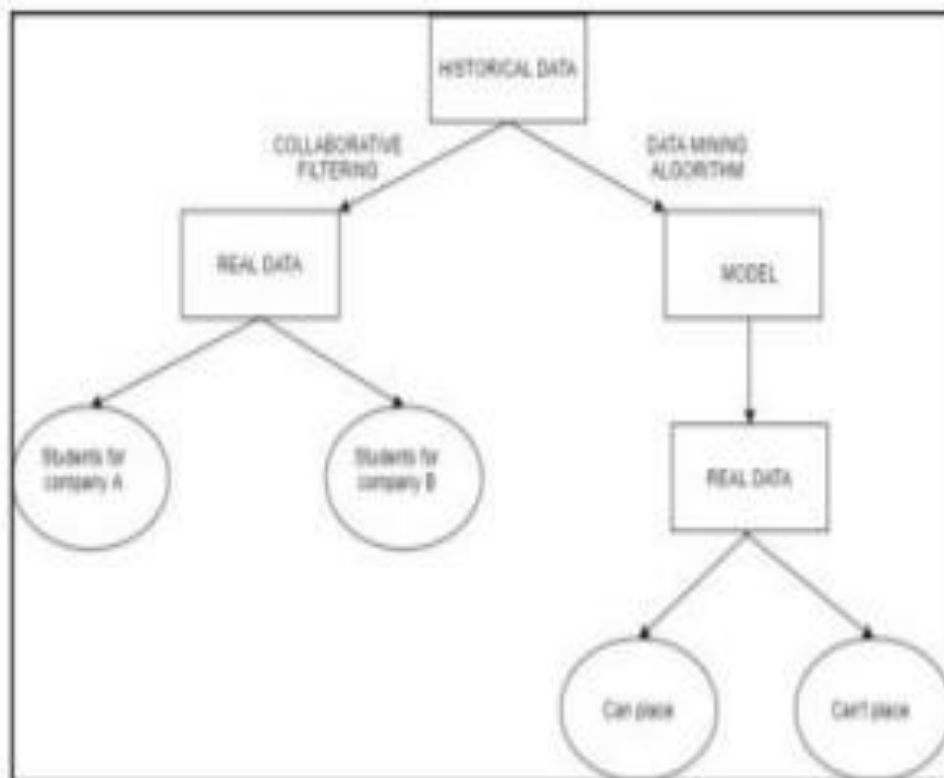

Fig 2. Linear regression flow chart

KNN Algorithm

 K-Nearest Neighbour Classifiers are often known as lazy learners. The classifier proceeds by identifying objects based on closest proximity of training examples in the feature space. While determining the class, this classifier considers k number of objects as the nearest object. The main challenge of this classification technique relies on picking the appropriate value of k.

IV. RESULTS AND DISCUSSION

A. Figures and Tables

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   sl_no gender  ssc_p    ssc_b  ...  specialisation  mba_p     status    salary
0      1      M  67.00   Others  ...          Mkt&HR  58.80     Placed  270000.0
1      2      M  79.33  Central  ...          Mkt&Fin 66.28     Placed  200000.0
2      3      M  65.00  Central  ...          Mkt&Fin 57.80     Placed  250000.0
3      4      M  56.00  Central  ...          Mkt&HR  59.43 Not Placed       NaN
4      5      M  85.80  Central  ...          Mkt&Fin 55.50     Placed  425000.0

[5 rows x 15 columns]
(215, 15)
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gender              object
ssc_p              float64
ssc_b               object
hsc_p              float64
hsc_b               object
hsc_s               object
degree_p           float64
degree_t            object
workex              object
etest_p            float64
specialisation      object
mba_p              float64
status              object
salary             float64
dtype: object
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gender               0
ssc_p                0
ssc_b                0
hsc_p                0
hsc_b                0
hsc_s                0
degree_p             0
degree_t             0
workex               0
etest_p              0
specialisation       0
mba_p                0
status               0
salary              67
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  gender  ssc_p  hsc_p     hsc_s  ...  specialisation  mba_p     status    salary
0      M  67.00  91.00  Commerce  ...          Mkt&HR  58.80     Placed  270000.0
1      M  79.33  78.33   Science  ...          Mkt&Fin 66.28     Placed  200000.0
2      M  65.00  68.00      Arts  ...          Mkt&Fin 57.80     Placed  250000.0
3      M  56.00  52.00   Science  ...          Mkt&HR  59.43 Not Placed       0.0
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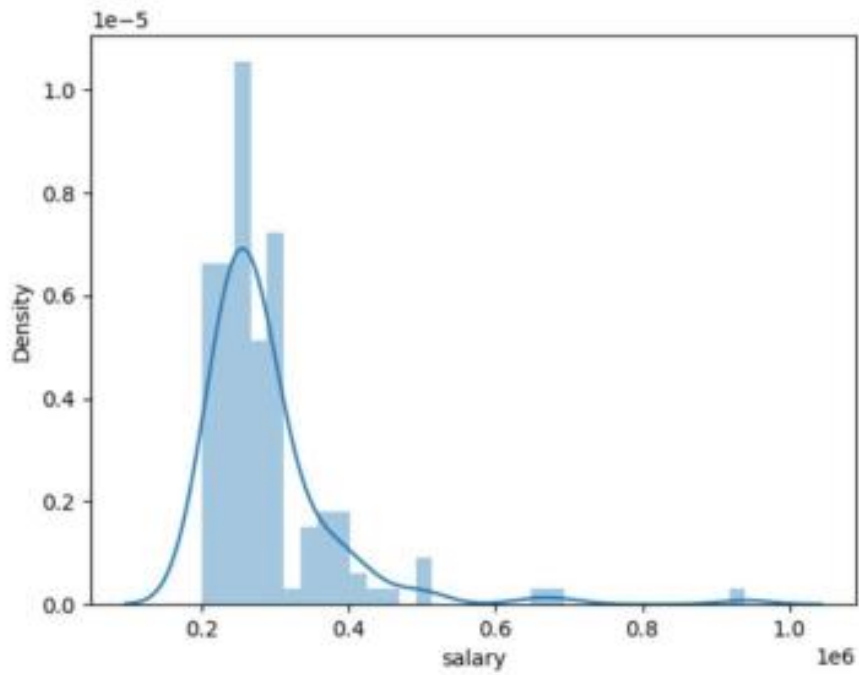
Fig 3. Data Study
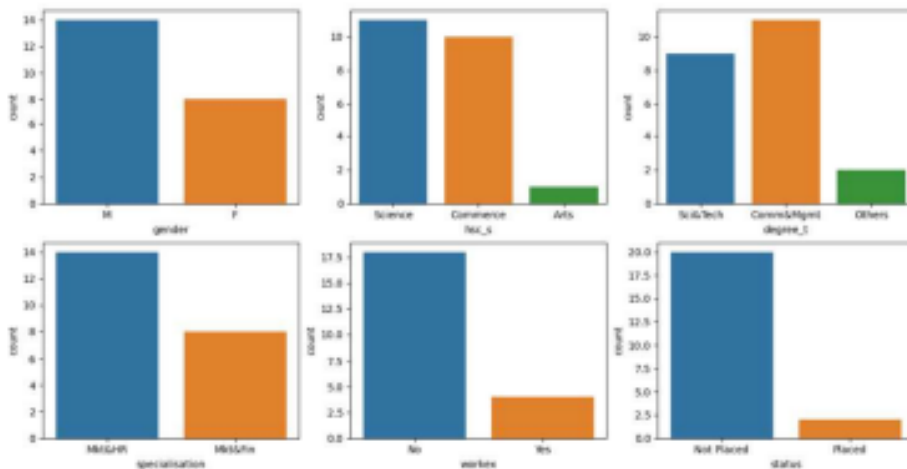
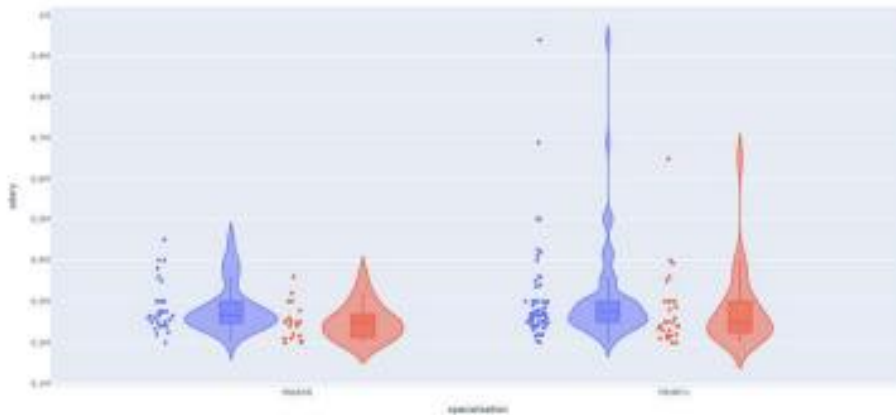**Fig 4**. Data Visualisation

Fig 5. Salary Distribution

Fig 6. Relationship among the data

Fig 7. Correlation among the data

Fig 7. Company Recommendation Dataset

Fig 8. Input Page

PLACEMENT PREDICTION

Placement Prediction : You are Doing well!! You Will Get placements

Fig 9. Output page for Prediction

V. CONCLUSION

The Student Placement Prediction Based on Academic Performance has been implemented and detected.

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