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ENGINERRING PLACEMENT PREDICTION

BY -
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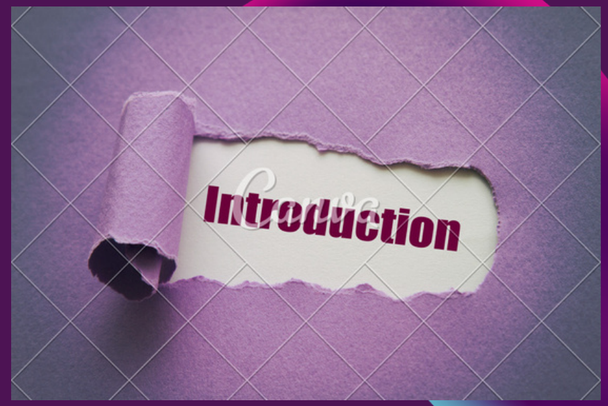
INTRODUCTION

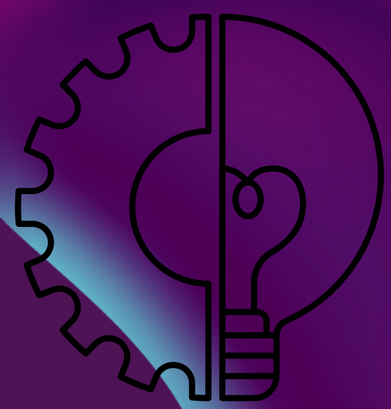


- Placement of students is one of the vital activities in academic establishments.
- Admission and name of establishments primarily depends on placements. Hence all institutions strive to Strengthen placement department.
- It also increases progress in student performance. So, students can analyze where they need to improve to secure a good placement in the near future

Problem statement

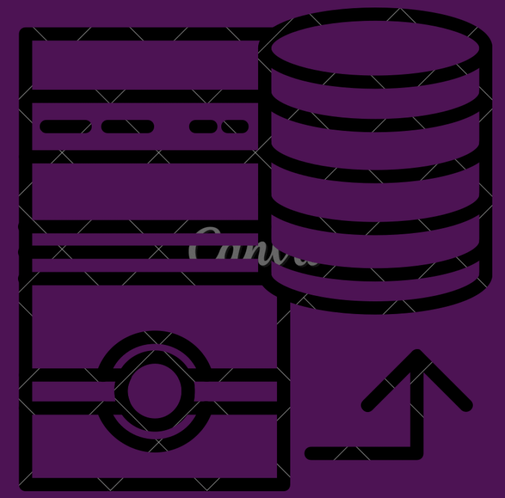
- A placement predictor is to be designed to calculate the possibility of a student being placed in a company, subject to the criterion of the company.
- The placement predictor takes many parameters which can be used to assess the skill level of the student. While some parameters are taken from the university level. 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.

Solution



- With the consideration of various parameters like the CGPA Backlogs,Internships and many attributes a model can be developed for the placement prediction
- With the help of various Classifiers and regression models ,some including Random Forest classifier. Knn , Adaboost classifiers the best fit model can be developed

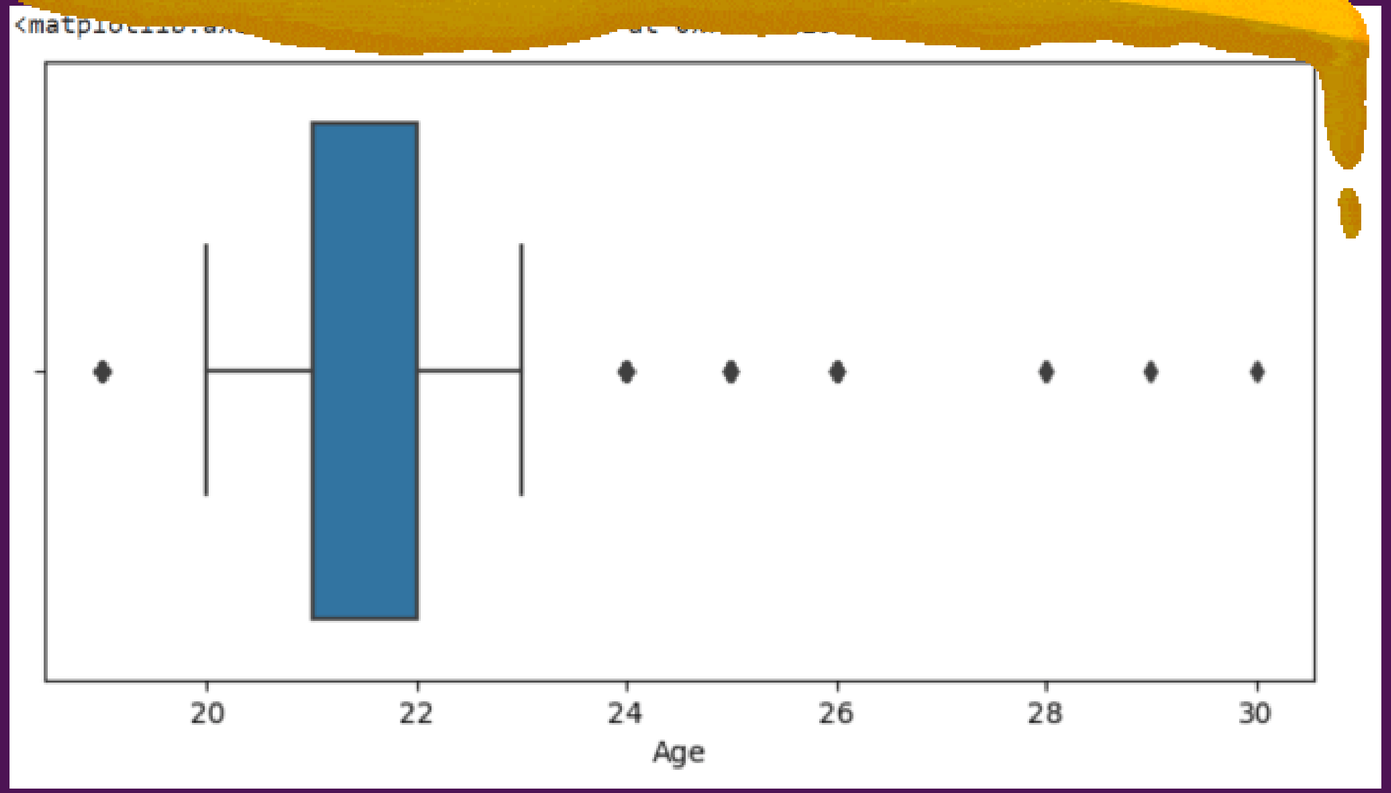
First Five Entry of the Dataset



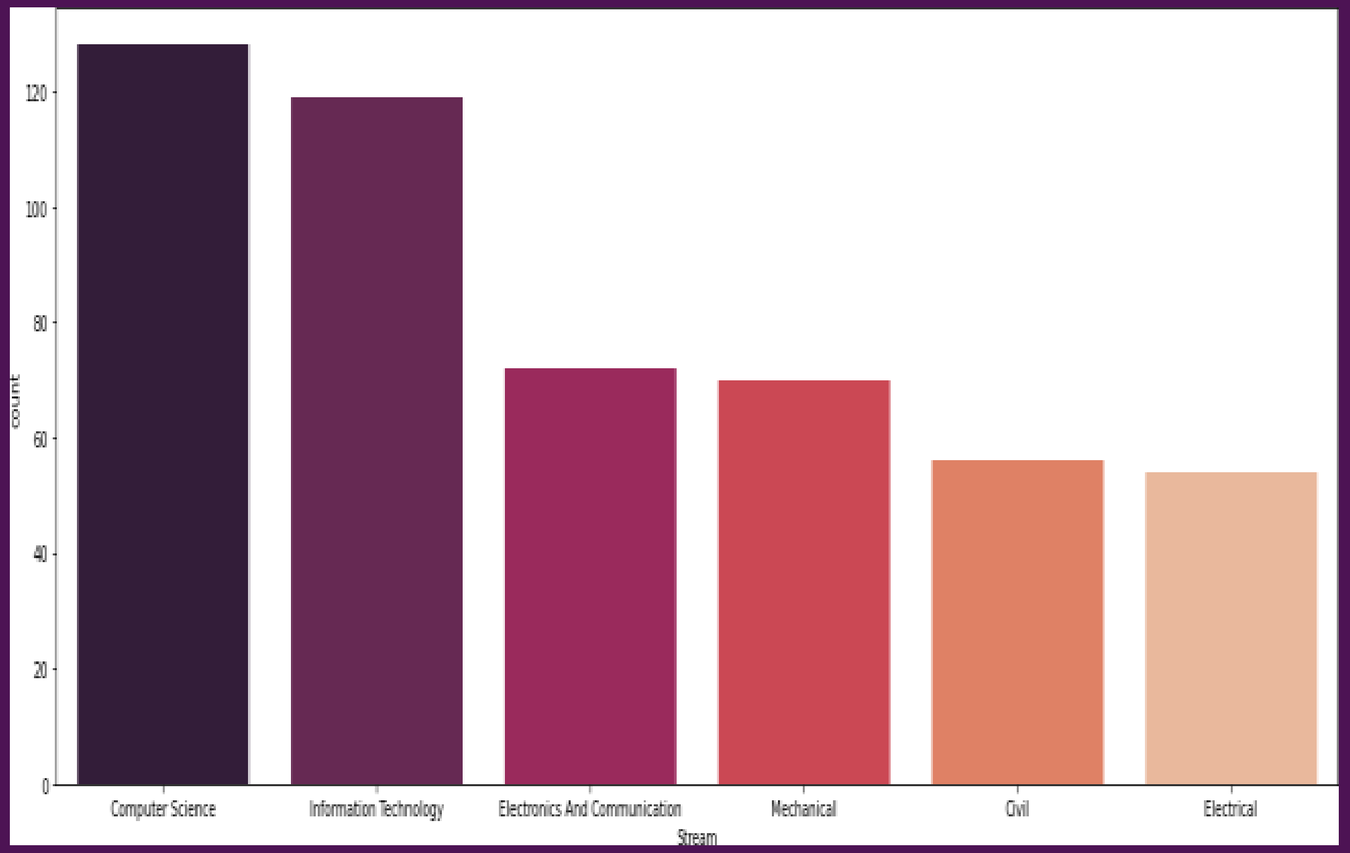
	Age	Gender	Stream	Internships	CGPA	Hostel	HistoryOfBacklogs	PlacedOrNot
0	22	Male	Electronics And Communication	1	8	1	1	1
1	21	Female	Computer Science	0	7	1	1	1
2	22	Female	Information Technology	1	6	0	0	1
3	21	Male	Information Technology	0	8	0	1	1
4	22	Male	Mechanical	0	8	1	0	1

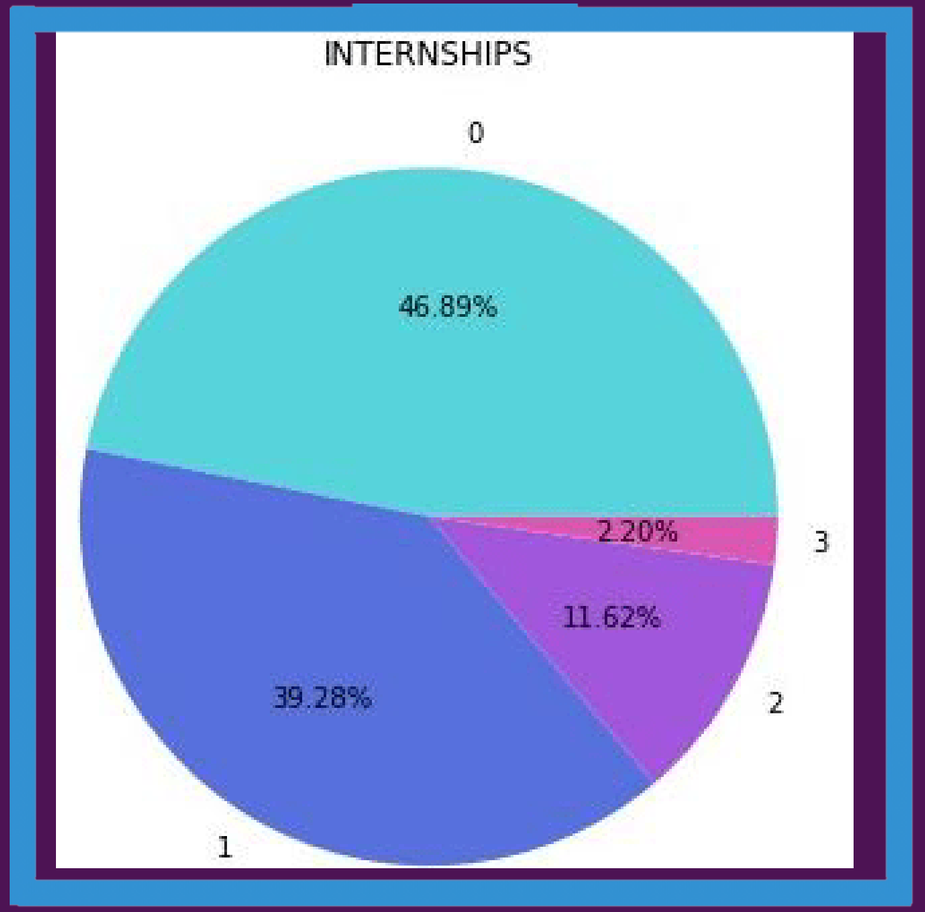
Fig 3.1: Sample Dataset

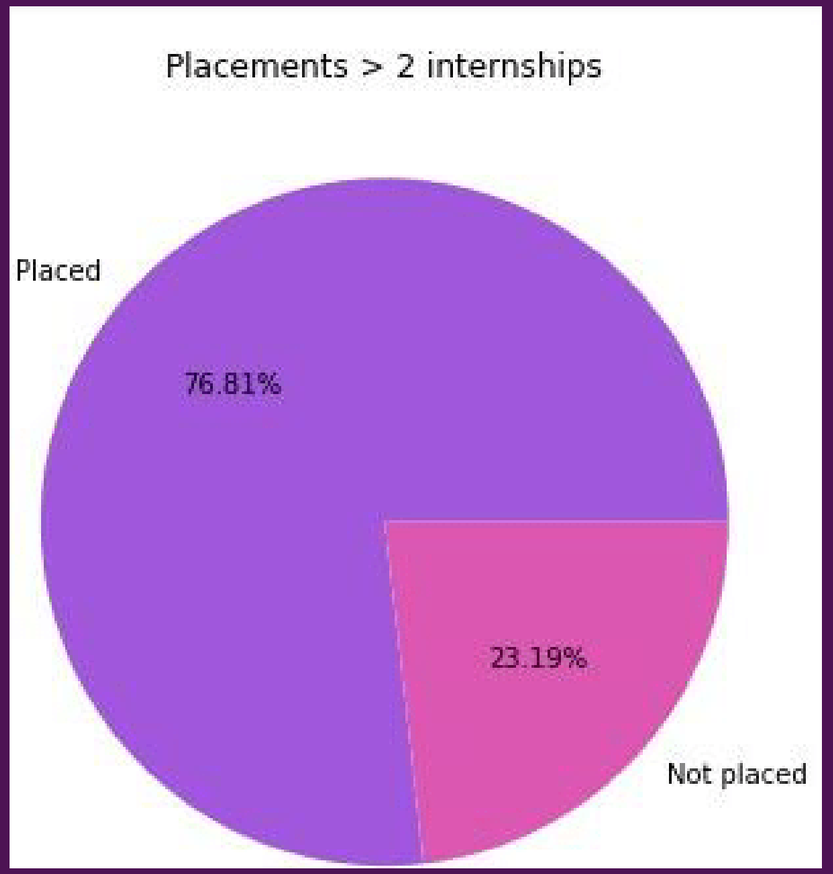
BOX PLOT

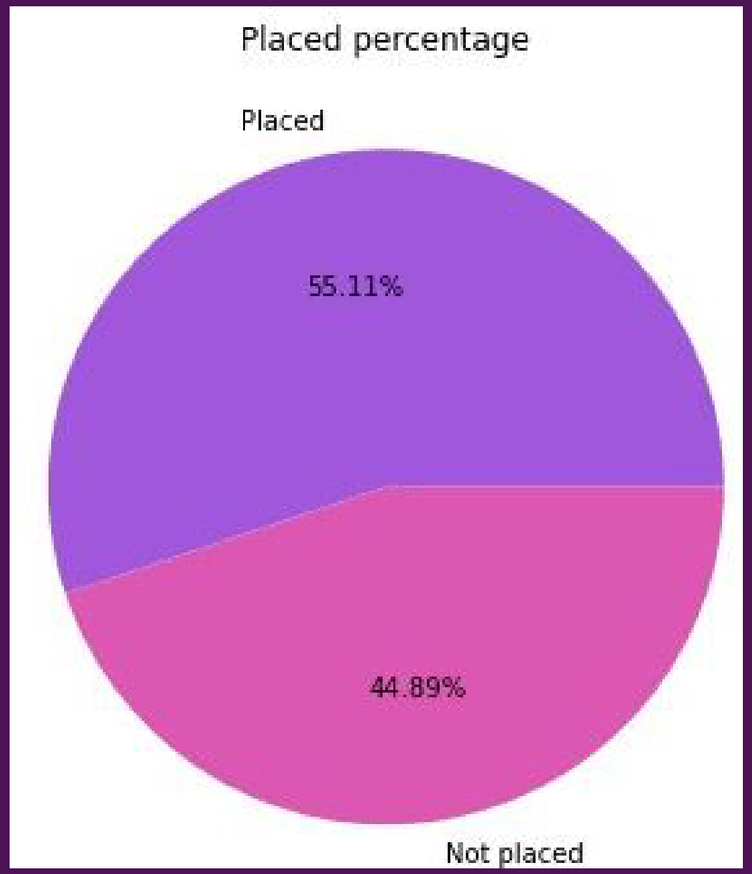


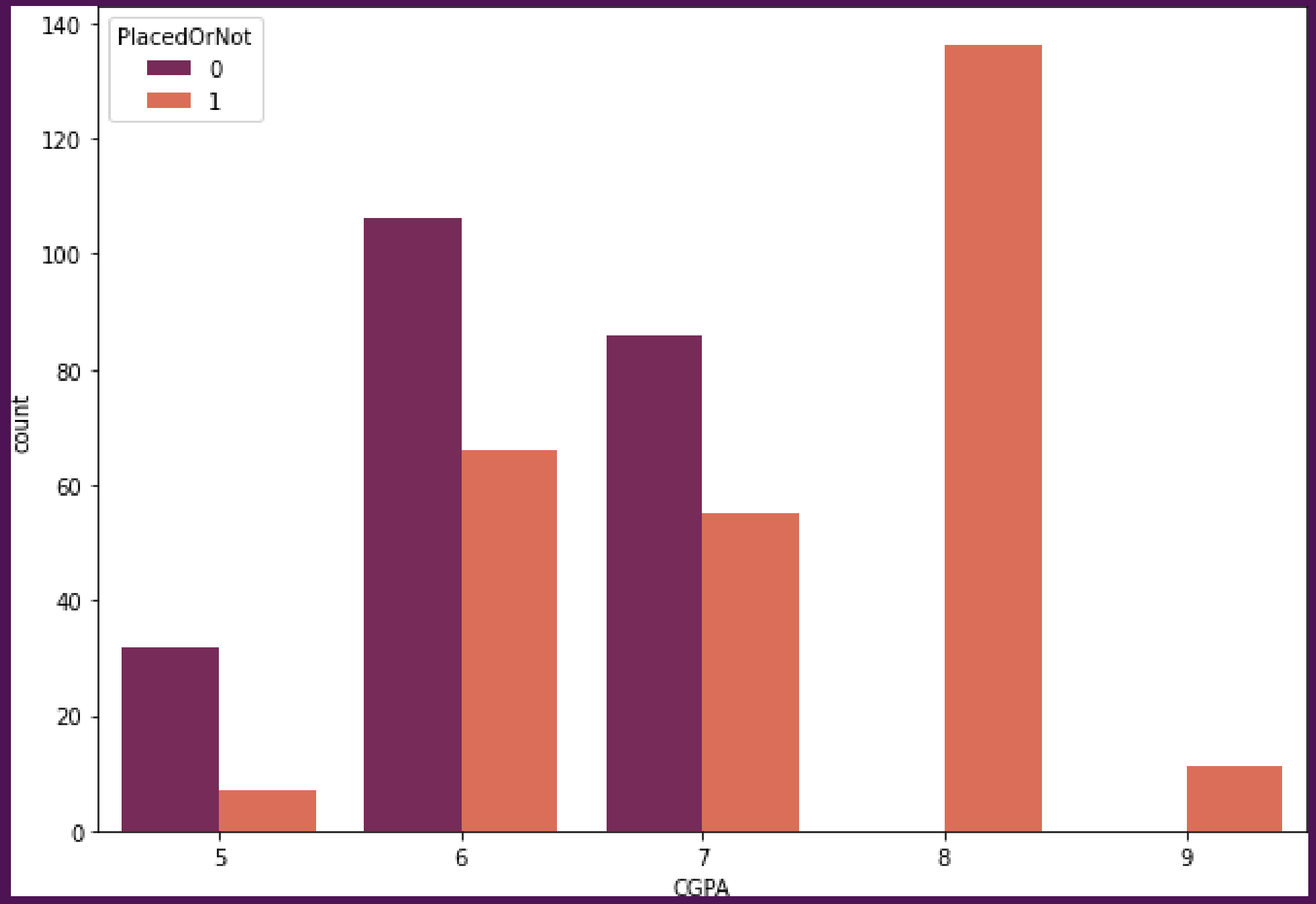
Results after performing EDA

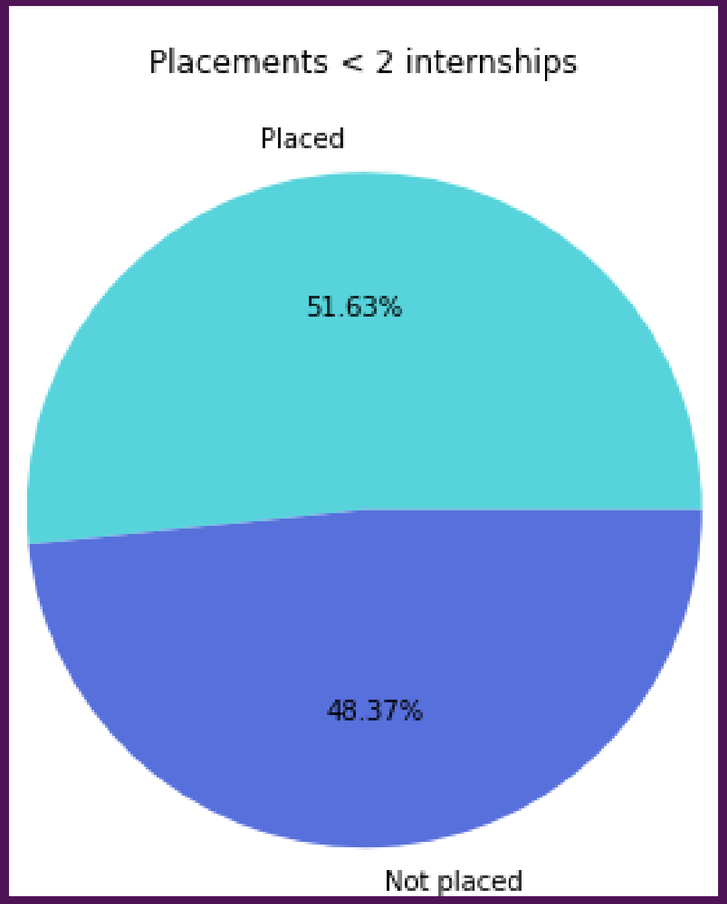





Placements > 2 internships
Placed
76.81%
23.19%
Not placed


Placed percentage
Placed
55.11%
44.89%
Not placed

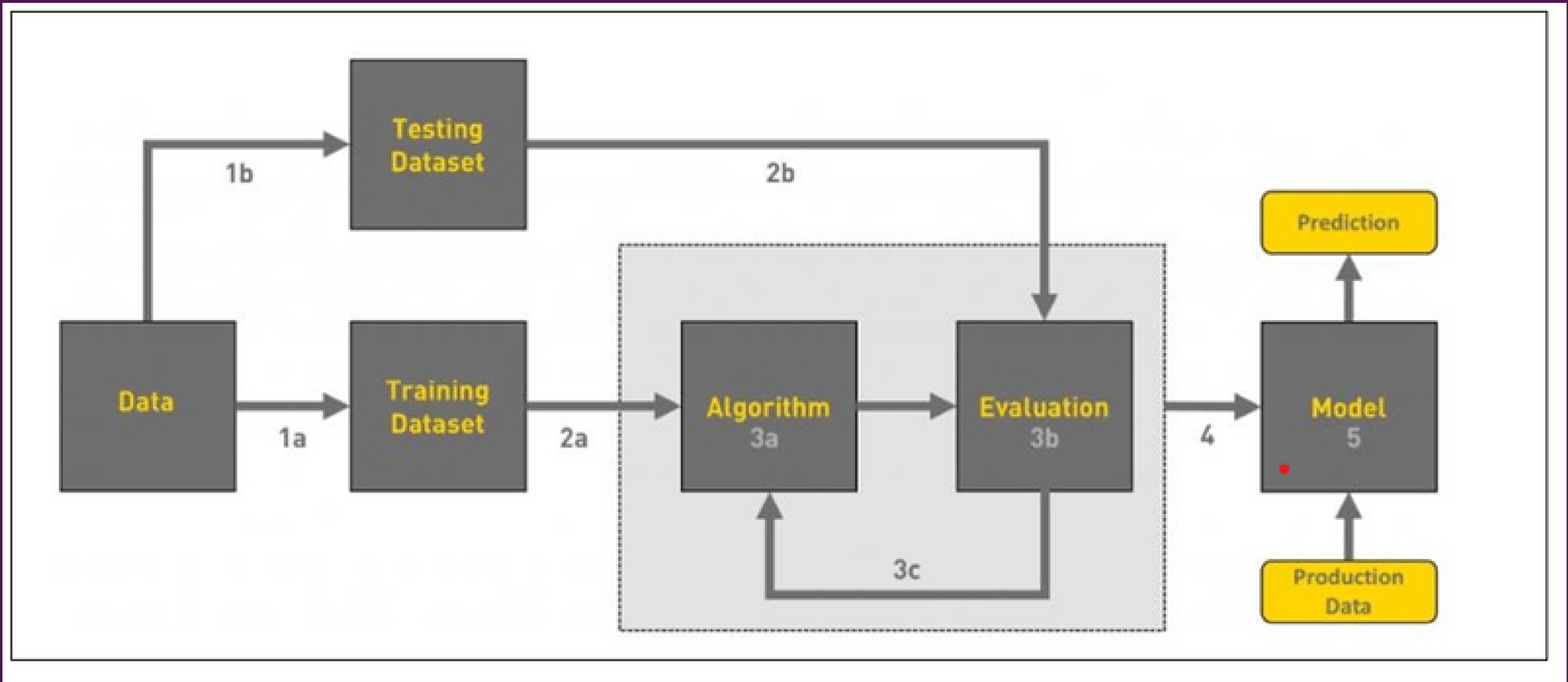

PlacedOrNot
0
1
140
120
100
80
60
40
20
0
count
5
6
7
8
9
CGPA

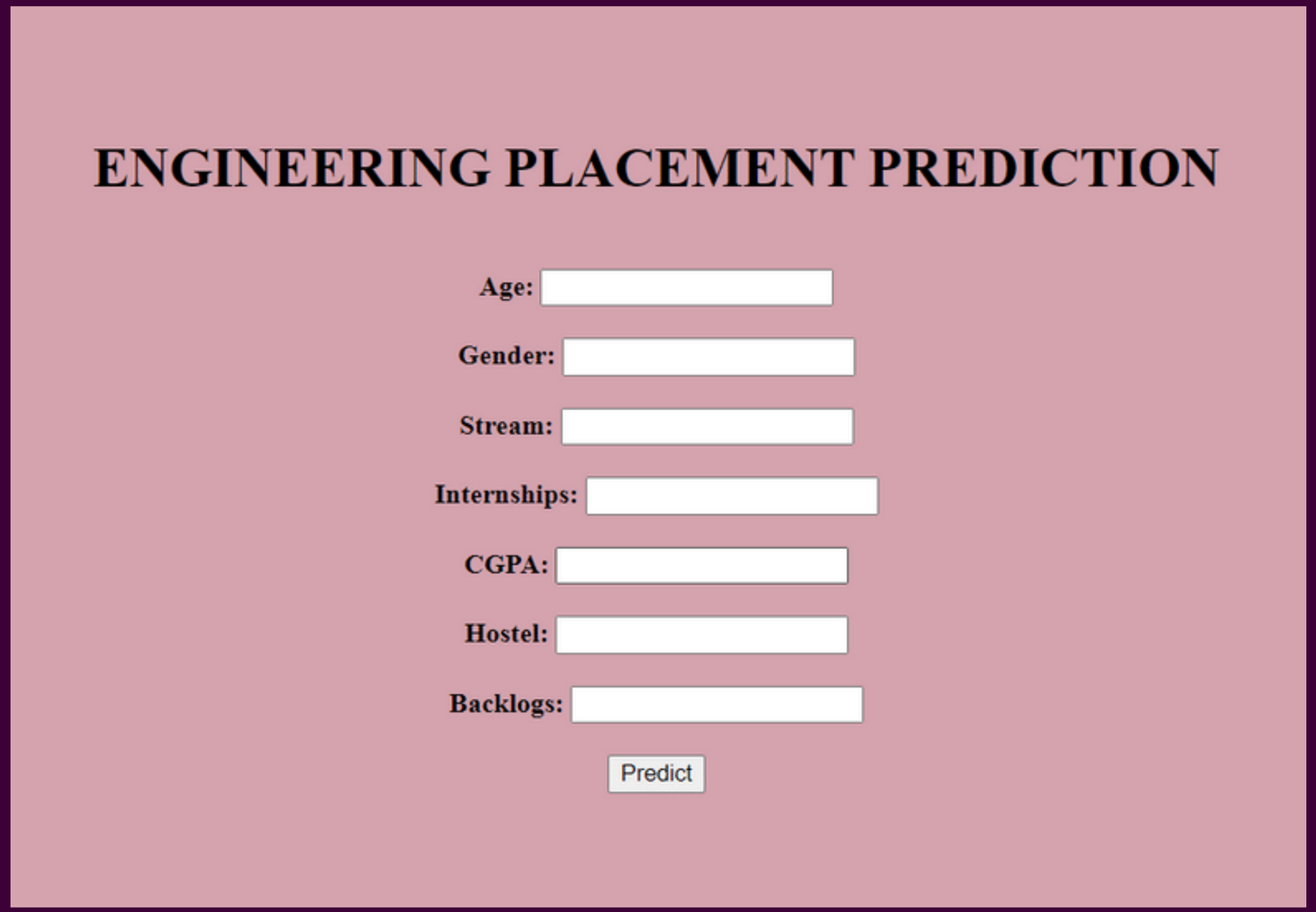

Placements < 2 internships
Placed
51.63%
48.37%
Not placed

Conclusions from EDA part

- Before proceeding onto training it is very much important to know is there any null values in the dataset and when I perfomed dataFrame.isnull().sum() the result was found out to be there was n null, NAN values. Hence dataset is clean.
- From the graphs it is observed that Computer science and Information technology branch has the highest placement opportunity while Civil being the least. Electrical, Electronics & Communication Engineering has decent placement opportunity.
- The number of students getting placed and not placed is almost equal hence dataset is balanced.
- From the Pie chart 2 it is observed that nearly 47% of students haven't done any internship, nearly 39% of students have done at least one Internship, nearly 11.5% of students completed tw internships, and less than 2.2% of students have completed three internships.
- Nearly 20% of students who are sitting for placements have active backlog.
- Nearly 27% of students stays in hostel remaining 73% lives off campus
- Nearly 84% of the students who are sitting for placements are Male and while 16%
- If a student gets a CGPA of 5 then getting placed percentage is very less.
- If a student gets CGPA between 8 and 9 almost all of them got placed.

Block diagram of model





https://engineering-placements.herokuapp.com/

N=594	True Positive	True Negative	False Positive	False Negative	Accuracy Score
Logistic Regression	188	236	78	92	71.38047138047138
Support Vector Matrix	264	236	78	16	84.17508417508418
KNeighbours Classifier	266	266	48	14	87.54208754208754
Random Forest Classifier	266	266	40	14	89.56228956228956
AdaBoost Classifier	264	255	59	16	87.37373737373737
Gradient Boosting Classifier	268	257	57	12	88.38383838383838
Decision Tree Classifier	252	268	69	5	87.54208754208754

Conclusion

- **Student Placement Predictor is a system which predicts student placement status using machine learning techniques.**
- **Many research papers are there related to educational sector, all these papers mainly concentrate on student performance predictions. All these predictions help the institute to improvise the student performance and can come up with 100% results.**
- **Many of the previous research papers concentrate on a less number of parameters such as CGPA and Arrears for placement status prediction which leads to less accurate results,but proposed work contains many educational parameters to predict placement status which will be more accurate**