

Predicting Student's Campus Placement Probability using Binary Logistic Regression

D. Satish Kumar, P. Bindu, Zailan Bin Siri, D.S. Rao, S. Anusha



Abstract— Understudies trying to precise instructions for the most part chose instructive establishment with a notable popularity inside the primary settings. Many of those establishments several instances reputation controlled through bundles of compensation presented with the aid of the complainant for his understudies. In this putting it's far appropriate to explore and distinguish variables which could have an effect on the composition of the reason replacement special education .The threat within the State of Andhra Pradesh which has a excessive grouping established order of a unique training become appointed as research region. A careful survey of writing ends in a diagnosed proof of six determinants of speculative state of affairs inside the alternative special motive training.A arbitrary eg MBA alternative function information 250 is assembled from various organizations and located parallel relapse version became suited for the six signs for assessing information possibilities for placing alternative purpose. Assessed Results show that the possibility of putting in a simple exam is inspired by using 4 signs: CGPA, Specializes in PG, UG and Specialization in Gender.

Key words

Campus Placements Technical Education Odds Ratio Binary Logistic Regression Goodness of Fit Confusion Matrix

I. INTRODUCTION

Organizations nowadays are relying a ton on grounds enrollment to top off the outlet. Whilst the groups get the terrific potential from severa faculties, understudies moreover get an opportunity to start their career with probable the first-class corporations inside the organisation global. Every college have to have a situation mobile to allow the understudies to relaxed the best feature wherein they could sharpen their aptitudes and get ready for a remarkable future in advance. Understudies seeking out confirmation in a respectable college have to look for information approximately its state of affairs file to have the option to comprehend their odds of finding up a exceptional process when they whole their route. Grounds positions are beneficial for the understudies in a couple of way. The understudies get furnished to the expert administrative center at the right time

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and figure out the manner to set themselves up for the competition. Campus position of an understudy is based upon numerous additives: each scholastic and non scholarly. The prevailing paper tries to apprehend a element of these additives.

II. PROBLEM STATEMENT

Grounds arrangement probabilities are significant standards even as selecting an instructive foundation with the aid of the understudy. Numerous variables add to the grounds positions for a pupil:each scholastic and non instructional.Of these, scholarly accomplishments, each gift and past, softskills, space information, territory of specialization, monetary traits are considered right here. The present exam endeavors to fabricate an order model that can foresee the hazard that an understudy who participates in an control application with precise highlights can be set or now not. The version depends on twofold calculated relapse it's a generally utilized order calculation in this sort of troubles.

III. OBJECTIVES OF THE STUDY

- To have a have a look at the concept of grounds situations this is precious for the two students and group.
- To build a version that can be carried out to foresee the chance that a haphazardly picked understudy could be positioned or now not.
- To identification the factors which can be impacting the state of affairs odds of a scholar.In specialised preparation.

IV. LITERATURE REVIEW

The paper by manner of G.Vadivu, okay.Sornalakshmi appliedMachine gaining knowledge of Algorithms for pupil Employability Prediction using R. On this paper, the machine inclining calculations ok-Nearest neighbor techniques KNN and Naïve Bayes are applied to foresee the employability flair dependent on their regular execution. Calculations like KNN and Naïve Bayes are beneficial to set up the gadgets into one among a few gatherings dependent on the estimations of a few variables.Manoj okay Shukla, Pranay Rambade, Jay Torasakar,Rakesh Prabhu, and Deepali Maste made an exam on college students Placement Prediction model using Logistic Regression. The desired Placement Prediction machine considers just scholarly exhibitions which will foresee whether an understudy may be put or not.



You make a decision approximately the understudy relying on his scholarly exhibitions may be unjustifiable for the understudy, considering that an understudy might be having splendid inclination, specialized and relational competencies however unfortunately in all likelihood may not be awesome in scholastic exhibitions. Vijay N.Kalbande, Dr.Chandras.C.Handa made an examination on Predicting the performance of Engineering college students in Campus Placement for IT sector via using ANN. On this studies, the one-of-a-kind employability aptitudes that may almost in reality impact execution of building understudies in grounds function had been recognized. An synthetic Neural community (ANN) version become produced for searching ahead to chance of arrangement depending on employability skills.Tripti Mishra, Dharminder, Sangeeta Gupta made an research on pupil's employability forecast version through information mining. The understudies' employability is a awesome fear for the companies supplying superior schooling and a technique for early forecast of employability of the understudies is continuously appealing to take opportune movement.Hitarthi Bhatt, Shraddha Mehta, Lynette R. D'mello made an research on Use of ID3 decision Tree set of rules for Placement Prediction. The focal thing of this paper is to apprehend whether or now not the understudy gets function or no longer. Rama Krishna, Bode Prasad, Satyanarayana Murthy made an exam on Placement Prediction evaluation in college the usage of progressed decision Tree based algorithm.Ajay Kumar buddy, Saurabh pal made an studies on classification version of Prediction for Placement of college students. This research introduces a proposed model dependent on order manner to address find a sophisticated assessment method for foreseeing the placement for college kids.SudheepElayidom,Sumam Mary Idikkula,Joseph Alexander made an examination on A Generalized information digging Framework for Placement hazard Prediction troubles. Statistics Mining is this kind of promising innovation whose rate becomes clear whilst it has a bent to be implemented to a area where a everyday guy is profited

V. HYPOTHESIS COMPONENTS

In view of the writing evaluation the

H1: Gender influences understudy affiliation.

H2: PG specialization influences understudy's association.

H3: PG cgpa is decidedly impacting the understudy's possibility of association.

H4: UG specialization influences understudy's association.

H5: UG cgpa is decidedly impacting the understudy's probability of association.

H6: Softskills competency has fine impact on understudy's association.

VI. RESEARCH METHODOLOGY

An arbitrary instance 250 MBA understudies affiliation facts from 5 using foundations have been received. A six indicator paired strategic relapse version changed into suited to the records. The needy variable is paired with results: set or not-set. The indicators consideredare :CGPA in UG and PG, Specialization in UG and PG, tender ability score and Gender. Wellknown demonstrative checks were

implemented to approve the fitted version. The open supply programming bundle deal R modified into utilized to interrupt down the statistics.

1. Binary Logistic Regression Model Estimation

Dependent Variable	Placement Status			
	Predictors	Odds Ratios	CI	p
(Intercept)	0.00	0.00-0.24	0.016	
gender 2	4.88	1.96-12.96	0.001	
Pgspn 2	1.23	0.49-3.09	0.664	
Pgspn 3	1.20	0.34-4.24	0.023	
Pgspn 4	1.98	0.35-16.01	0.463	
Pgspn 5	4.60	0.36-112.74	0.252	
Ugspn 2	1.81	0.57-6.01	0.318	
Ugspn 3	3.40	1.31-9.33	0.014	
Ugspn 4	2.24	0.72-7.28	0.169	
Ugspn 5	2.06	0.08-56.56	0.624	
dMBA CGPA	2.83	1.70-5.02	<0.001	
dUG CGPA	0.71	0.41-1.23	0.229	
dsoft skills	0.99	0.92-1.06	0.824	
Observations	250			

Cox & Snell's R² / Nagelkerke's R² 0.195 / 0.23

2. Model Diagnostics:

We have to carry out diagnostic tests before the binary logistic regression model can be validated Null deviance: 214.74 on 247 degrees of freedom

Residual deviance: 149.62 on 229 degrees of freedom

AIC: 207.62

Hosmer-Lemeshow Goodness-of-Fit Test

Summary: model seems to fit well.

Cox & Snell's R² - 0.195

Nagelkerke's R² - 0.262

6.1 Confusion matrix:

N=257	Predicted: 0	Predicted: 1
Actual: 0	97	45
Actual: 1	24	81

True Positive + True Negatives

True Positive + True Negatives + False Positives + False Negatives

True positive=97

True negative=81

False negative=45

False positive=24

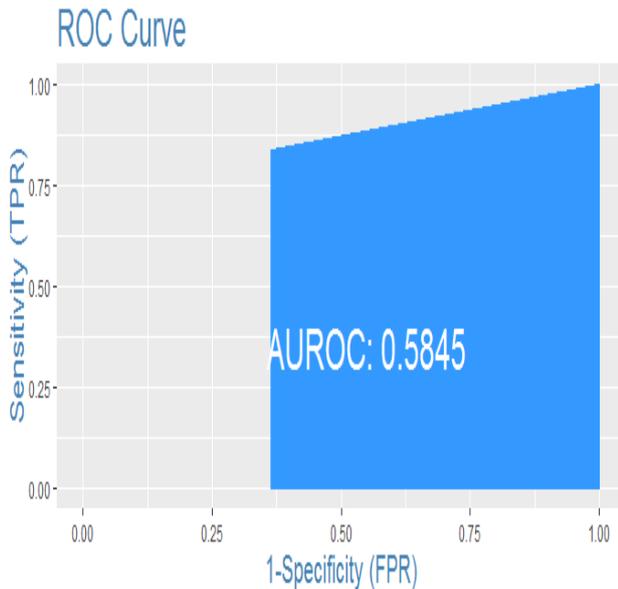
Model accuracy = 178/247

=72.06

The Hosmer-Lemeshow Goodness-of-Fit Test right that the model fit to the records.



From Confusion Matrix is a model exactness of seventy two% which is a degree of precision that is very sensible. Cox and Snell R²/Nagelkerke is R²provides pseudo R² measures for the model. ROC bend is established as follows.



VII. DATA ANALYSIS AND INTERPRETATION

Facet results of the strategic version of the six signs used to test the examination speculation in terms of the connection between the possibility that a replacement is inserted and alternative Gender, specialization PG, PG CGPA, specialization UG, UG CGPA, mild potential capabilities that appear within the desk. According with the results established in table 1 we're able to make a stop that accompany it.

1. Feasible replacement sets creature changed into truly recognized by manner of its PG CGPA (2.80 3 (p = zero.001)), Gender, PG and UG specialization.
2. The higher the PG CGPA is much more likely that a opportunity is being set.
3. Three. Given the identical CGPA in PG, student are guys will definitely regulate the evaluation with the female alternative.
4. Four. Given the synthetic equal CGPA on this vicinity with advertising and marketing and Finance will definitely positioned.
5. Five. Given this CGPA comparable substitute of B.Com basis of their UG sure to be laid.
6. Based on the ROC research we are able to nation that the version with the six signs and symptoms taken into consideration to have a 60% accuracy in looking ahead to whether a replacement might be blanketed or not.

VIII CONCLUSIONS

The present paper attempted to build a binary classification model using logistic regression for predicting the likelihood that a management graduate be campus placed given that he acquires some competencies apart from his initial attributes. Results of the study indicates that gender difference, CGPA, and area of specialization can account for 60% of the variance in the

placement probability of the sampled respondents. Sample size is an important constraint in this study for claiming external validity of the results.

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