

IDENTIFYING PATTERNS

AND TRENDS IN CAMPUS PLACEMENT DATA USING MACHINE LEARNING

Milestone 1: Define Problem / Problem Understanding

Activity 1: Specify the business problem

One common business problem in campus placement is the challenge of finding additionally, companies may struggle with creating an effective and efficient recruitment process. The recruitment process must be well-designed to ensure that the best candidates are identified quickly and efficiently, without placing too much strain on the company's resources. Finally, companies may also face challenges in negotiating salaries and benefits with candidates. Some candidates may receive multiple job offers, which can create a bidding war for the most desirable candidates. Companies must be prepared to offer competitive compensation packages.

Activity 2: Business requirements

In campus placement, a business requirement typically refers to the specific skills, qualifications, and characteristics that a company is looking for in potential candidates. This can include

Soft skills: In addition to technical skills, companies may also look for candidates with strong communication skills, teamwork abilities, and leadership potential.

Cultural fit: Companies often look for candidates who align with their culture and values. This can include qualities like a strong work ethic, a positive attitude, and a passion for the company's mission. **Relevant experience:** Many companies prefer candidates who have relevant work experience, such as internships or previous jobs in a similar field.

Activity 3: Literature Survey

T. Jeevalatha, et.al used the decision tree algorithm to predict the selection of student for the placements. They used Decision Tree (**DT**) algorithm such as C4.5, ID3, and **CHAID** which were developed by using Data Mining Rapid Miner software/tool. The validation for the above said three algorithms are checked and there significant accuracy was founded. The authors concluded that the ID3 is the best algorithm than the other. ID3 provides accuracy of **95.33%** which is higher than the CHAID and C4.5.

Neelam Naik and **Seema Purohit** built the model to classify the performance of the placement of students. The error produced to classify validation data, result prediction classification tree was **38.46%** and while for validating placement prediction classification tree was found **45.38%** respectively.

Ajay Kumar Pal and **Saurabh Pal** collected the data for the study and analysis of the student's educational performance basically for training and placement. The authors used different classification algorithm and used WEKA data mining tool. They concluded that naive Bayes classification model is the better algorithm based on the placement data with found accuracy of **86.15%** and overall time taken to build the model is at 0 sec. As compared with others Naïve Bayes classifier had lowest average error i.e. 0.28.

Ajay Shiv Sharma, and et.al, used the logistic regression model and developed the placement prediction system (PSS) .The accuracy of training and testing of the algorithm was **98.93%** and **88.333%**.

BahenSen, **EmineUcar** and **DursunDelen** collected the large and feature rich dataset and build the model to predict the placement test results. They used support vector machine, C5 Decision Tree algorithm, and artificial neural network. They resolved that C5 Decision Tree algorithm is the better prediction model with efficiency of **95%**, the accuracy of support vector and artificial neural network is **91%** and **89%**.

Ravi Tiwari and **Awadhesh Kumar** Sharma built the prediction model to improve the placement of the students. They used WEKA as the data mining tool to build the model using random tree algorithm. They also used ID3, Bayes Net, RBF network, J48, algorithms on the student data set. They resolved that the RT (**Random Tree**) algorithm is more accurate with **73%** for the classification/prediction of the model. The accuracy using ID3 and J48 is **71%**. Bayes Net is **70%** accurate and **65%** accuracy using RBF network algorithms.

Activity 4: Social or Business Impact.

Social impact: Gender and diversity: Campus placements can also impact gender and diversity in the workplace. Companies that participate in campus placements can actively seek to increase diversity in their workforce and provide opportunities to individuals from different backgrounds.

Social responsibility: Campus placements can also encourage companies to be socially responsible and consider the impact of their actions on the environment and society. Students can choose to work for companies that align with their values and have a positive social impact.

Business impact: campus placement offers several benefits. Firstly, it allows them to tap into a pool of talented and enthusiastic young graduates who are eager to make a mark in the corporate world. Secondly, it saves them the time and effort of advertising job vacancies and conducting recruitment drives, as everything is taken care of by the educational institutions. Thirdly, campus placement provides companies with a cost-effective way of hiring employees, as they do not have to spend money on recruitment agencies or advertising.