



LogiPlacement

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Abstract : In an era of dynamic career choices and a constantly evolving job market, "LogiPlacement" serves as your guiding light towards a prosperous professional future. Our comprehensive website integrates three powerful modules to assist you in making informed career decisions, crafting compelling resumes, and charting educational roadmaps for success. Harnessing the predictive prowess of the Random Forest algorithm, "LogiPlacement" empowers you to anticipate your career prospects based on your qualifications and preferences. Furthermore, our "Resume Showcase" feature allows you to upload your resume, receiving a collection of sample resumes tailored to your chosen career path, ensuring that your applications stand out. Lastly, "Road Maps to Learn Various Courses" provides personalized learning paths, curated to your aspirations, helping you gain the skills and knowledge you need to excel in your chosen field. "LogiPlacement" is your invaluable companion on the journey to career success, offering a holistic approach to personal and professional development. Start charting your course today and set sail towards a brighter future.

Keywords: LogiPlacement, career decisions, resumes, educational roadmaps, predictive algorithm, qualifications, preferences, Resume Showcase, sample resumes, Road Maps, personalized learning paths, professional development, career success.

1. Introduction: In today's fast-paced world, one of the most pressing challenges individuals face is finding the right career path. The ever-changing job market, coupled with the multitude of career choices available, can often leave us feeling uncertain and overwhelmed. Many have struggled with making informed career decisions, crafting compelling resumes, and aligning their learning experiences with their professional goals. This real-life problem has led to the development of "LogiPlacement," a practical solution designed to simplify the complexities of career planning and progression. In this project, we aim to address this common issue and provide a valuable tool for students and professionals alike, helping them navigate their career journeys with confidence and clarity.

2. Methodology

Random Forest Regression is a robust and versatile machine learning technique tailored for solving regression problems where the goal is to predict continuous numerical values. This method leverages the power of an ensemble of decision trees, each trained on a different random subset of the training data, coupled with the random selection of a subset of features at each node during tree construction. This inherent randomness not only guards against

overfitting but also allows Random Forest Regression to capture complex non-linear relationships and interactions in the data. When making predictions, it combines the outputs of the individual trees by averaging them, resulting in a highly accurate and stable regression model. Moreover, Random Forest Regression offers the advantage of feature importance assessment, aiding in the identification of the most influential predictors. It finds application in diverse domains, from finance and economics to environmental science, providing a reliable tool for forecasting, data analysis, and decision-making tasks that involve predicting continuous numerical outcomes.

•Dataset used: We used Engineering Placements (collegePlace.csv) that is well accessible online and additionally you'll be able to download it.

•Placement-Prediction:

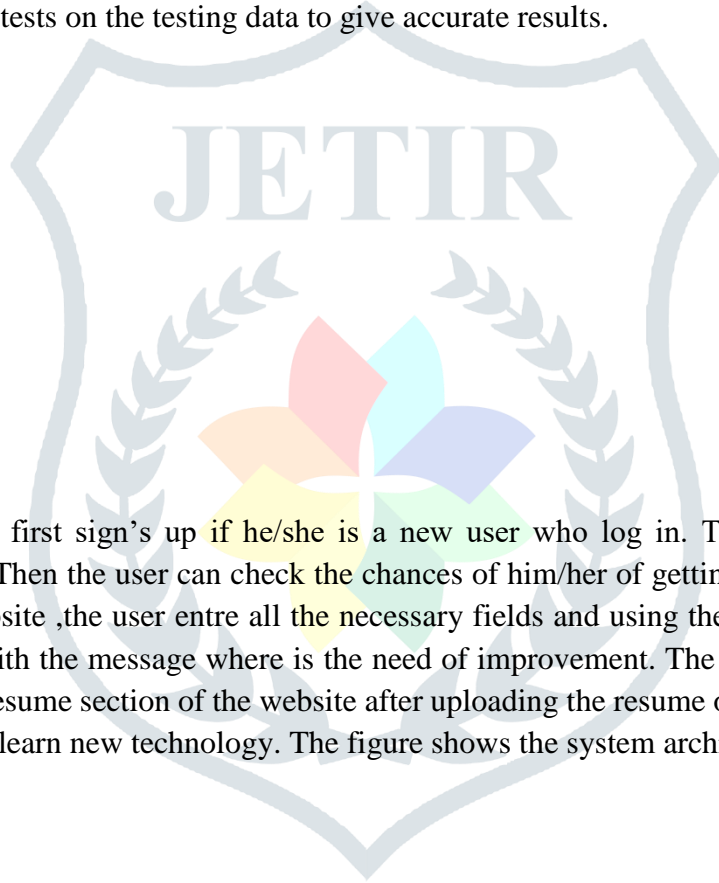
This Module includes a python file that is the Random Forest Regression Machine Learning model that trains on the basis of training data and tests on the testing data to give accurate results.

• Methodology / Approach

- Step 1: Data Collection
- Step 2: Data Preprocessing
- Step 3: Feature Engineering
- Step 4: Data Splitting
- Step 5: Model Selection
- Step 6: Model Training
- Step 7: Model Evaluation

3. System Architecture

In LogiPlacement, the user first sign's up if he/she is a new user who log in. The database used for storing login/signup details is SQL, Then the user can check the chances of him/her of getting placed using the placement prediction section of the website, the user entre all the necessary fields and using the random forest algorithm the results are predicted along with the message where is the need of improvement. The user can use the templates of the resume available on the resume section of the website after uploading the resume of user lastly users can use the RoadMap section in order to learn new technology. The figure shows the system architecture.



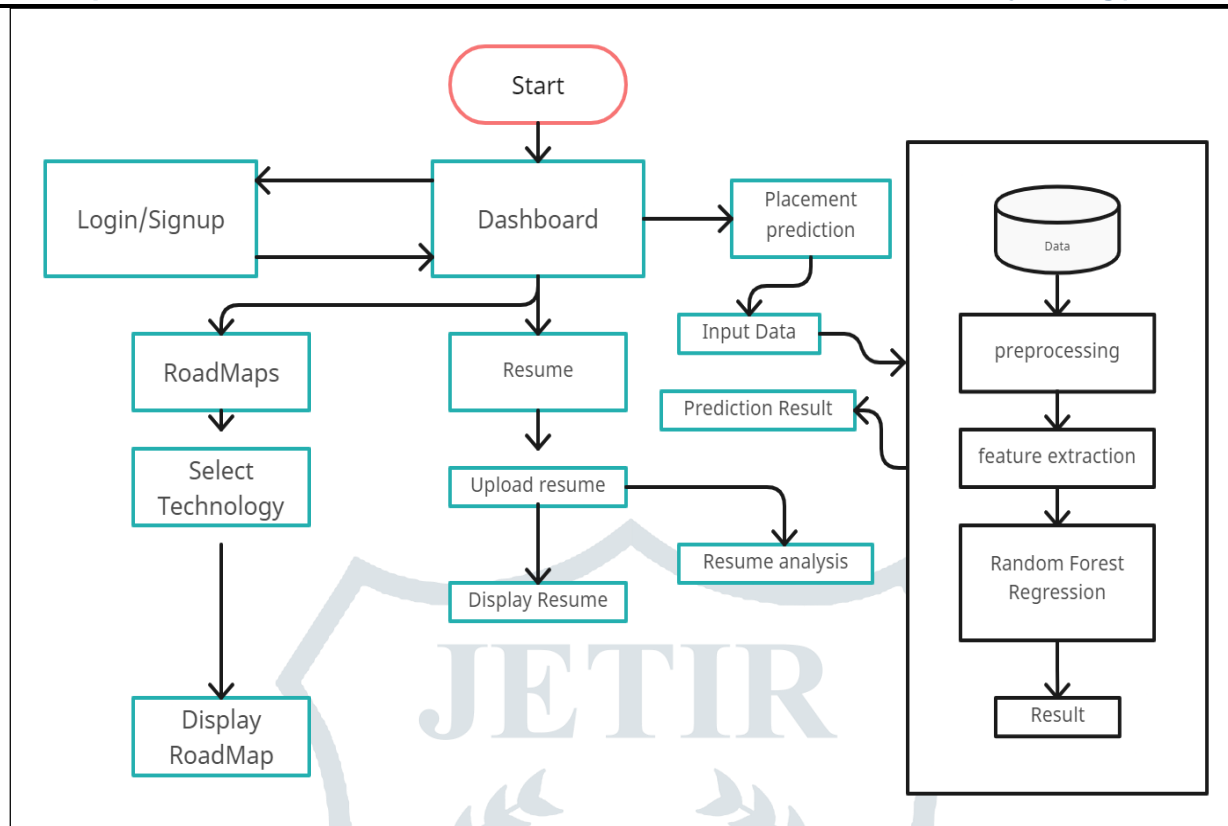


Figure. 3.3.1 – System Architecture

3.3.1 Details of Modules

LogiPlacement tends to integrate various modules, The modules are:

- A. Placement Prediction
- B. Resume
- C. RoadMaps

A. Placement Prediction

User first sign's up if he/she is a new user and log's in. The database used for storing login/signup details is Firebase, Then the user can check the chances of him/her of getting placed using the placement prediction section of the website ,the user entre all the necessary fields and using the random forest algorithm the results are predicted along with the message where is the need of improvement.

B. Resume

Once the user has successfully logged in the resume section can be used , the user needs to first upload his resume as soon as he uploads the resume, he will be able to check the template resumes available of various students/people already placed in various companies.

C. RoadMaps/Training

The user on login can use this section if the user wants to learn a specific technology or improve a particular skill, this section will contain all the roadmaps to learn several technologies from basic to advanced levels.

4. Analysis/Framework/ Algorithm

The Random Forest algorithm is a supervised learning method. In supervised learning, the algorithm is provided with a labeled dataset, meaning that it's given input data along with the corresponding correct output or target. The algorithm's task is to learn a mapping from input to output based on the provided examples.

In the case of Random Forest, it is typically used for both classification and regression tasks:

- **Classification:** In classification tasks, the objective of the algorithm is to categorize input data into predefined classes or categories. Each decision tree within the Random Forest ensemble makes a prediction for the class of the input data point, and the final prediction is often determined by a majority vote among the individual trees.
- **Regression:** In regression tasks, Random Forest predicts a numerical value as the output based on input data. The final prediction is often the average of the predictions made by individual decision trees in the ensemble.

Supervised learning is a common approach in machine learning, where the algorithm learns from historical data to make predictions on new, unseen data.

Working of Random Forest Algorithm

Random Forest is a powerful ensemble learning technique used in machine learning. Here's how it works:

Random Sampling: The algorithm creates multiple decision trees using bootstrapping, which involves randomly selecting subsets of the training data with replacement. Each tree is trained on a different subset.

Random Feature Selection: At each node of the decision tree, only a random subset of features is considered for splitting. This randomness helps in creating diverse trees and prevents overfitting.

Decision Tree Construction: Each decision tree is grown to its maximum depth without pruning. Splitting at each node is based on the feature that provides the best separation of data according to a chosen criterion like Gini impurity or information gain.

Voting or Averaging: Once all the trees are constructed, predictions are made for new data points. In classification tasks, each tree "votes" for a class, and the class with the most votes becomes the predicted class. For regression tasks, predictions from each tree are averaged to obtain the final prediction.

Final Prediction: The final prediction is typically determined by aggregating the predictions from all the individual trees. For classification, the mode (most frequent class) is often used, while for regression, the mean of the predictions is taken.

Random Forest effectively reduces overfitting by creating diverse trees through random sampling of both data and features. It tends to produce robust models with high accuracy and generalization performance.

This algorithm is widely used across various domains due to its simplicity, scalability, and ability to handle high-dimensional data and complex relationships. It's particularly useful when working with large datasets and can handle both classification and regression tasks effectively.

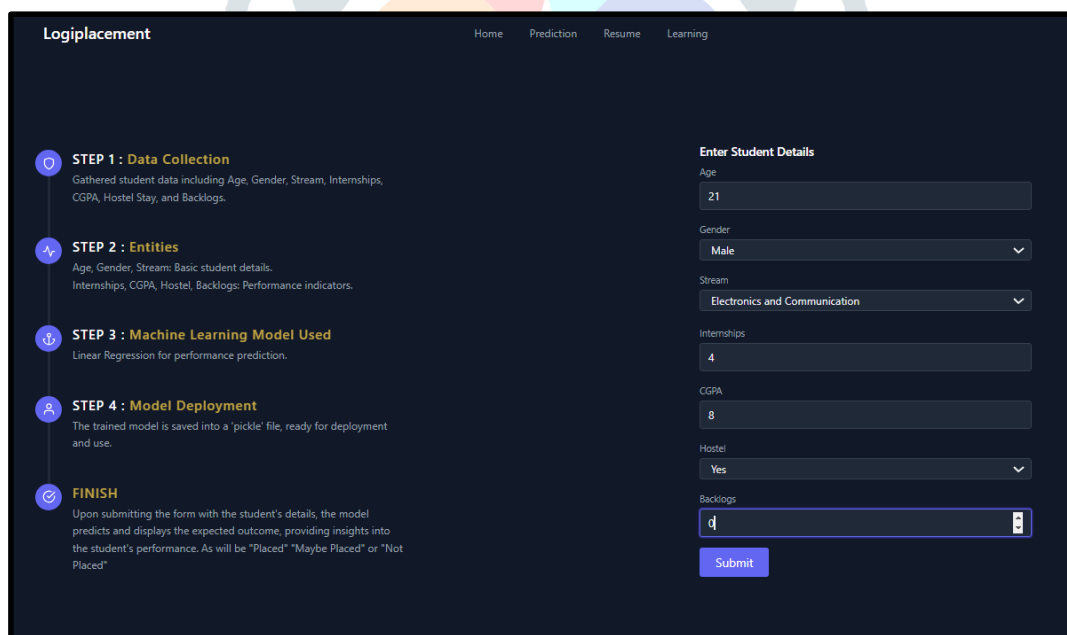
Ensemble uses two types of methods:

Bagging, also known as Bootstrap Aggregating, is a technique in machine learning where multiple individual models are trained independently on various subsets of the training data. These subsets are created by randomly selecting data points with replacement, allowing for diverse training sets for each model. By combining the predictions of these models, typically through averaging or voting, bagging aims to improve the overall accuracy and robustness of the final model.

Boosting, on the other hand, is a different approach that sequentially builds a strong learner by focusing on the mistakes made by previous models. Weak models are trained iteratively, with each subsequent model paying more attention to the instances that were incorrectly classified by the previous ones. This iterative process aims to gradually improve the overall performance of the model.

Random Forest, a popular ensemble learning algorithm, operates based on the principles of bagging. It constructs a multitude of decision trees during training, each trained on a random subset of the data using bootstrapping. Then, it combines the predictions of these trees to produce a final prediction, which often yields better accuracy and generalization compared to individual decision trees.

Result and Output:



Logplacement Home Prediction Resume Learning

STEP 1 : Data Collection
Gathered student data including Age, Gender, Stream, Internships, CGPA, Hostel Stay, and Backlogs.

STEP 2 : Entities
Age, Gender, Stream: Basic student details.
Internships, CGPA, Hostel, Backlogs: Performance indicators.

STEP 3 : Machine Learning Model Used
Linear Regression for performance prediction.

STEP 4 : Model Deployment
The trained model is saved into a 'pickle' file, ready for deployment and use.

FINISH
Upon submitting the form with the student's details, the model predicts and displays the expected outcome, providing insights into the student's performance. As will be "Placed" "Maybe Placed" or "Not Placed"

Enter Student Details

Age: 21

Gender: Male

Stream: Electronics and Communication

Internships: 4

CGPA: 8

Hostel: Yes

Backlogs: 1

Submit

Logiplacement Home Prediction Resume Learning

STEP 1 : Data Collection
Gathered student data including Age, Gender, Stream, Internships, CGPA, Hostel Stay, and Backlogs.

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Enter Student Details

Age:

Gender:

Stream:

Internships:

CGPA:

Hostel:

Backlogs:

Result of prediction is Placed

ResumeKraft 1 / 2 | 64% |

Logiplacement Home Prediction Resume Learning

Your Current Skills are:
ios Xml Communication International Soap Architecture Swift Rest Programming

See our skills recommendation below:
Resume Analysis Results
Recommended Field: Our analysis says you are looking for jobs in iOS Development
Recommended Skills For iOS Development:
iOS
iOS Development
Swift
Cocoa
Cocoa Touch
Xcode
Objective-C
SQLite
Plist
StoreKit
UI-Kit
AV Foundation
Auto-Layout
Recommended Course:
Learn Swift First - [Free]
Swift Course by LinkedIn
iOS App Development with Swift Specialization
iOS App Development by LinkedIn
Learn Swift by Codecademy
Resume Tips & Ideas
Resume Score [7]
Your Resume Writing Score: 40
Note: This score is calculated based on the content that you have in your Resume.
Resume Tips:
[+] Awesome! You have added Objective
[-] Please add Declaration. It will give the assurance that everything written on your resume is true and fully acknowledged by you
[-] Please add Hobbies. It will show your personality to the Recruiters and give the assurance that you are fit for this role or not.
[-] Please add Achievements. It will show that you are capable for the required position.
[-] Awesome! You have added your Projects

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Summary

- 4.7 years of experience in developing applications on iOS
- Work experience in swift programming
- Decent knowledge MVC Architecture
- Experience in using SOAP, REST-based Web Services
- Good knowledge on push notification integration
- Experience in App submission to the app store
- Excellent communication skills
- Passionate to secure a challenging position in a reputable organization to expand my learnings, knowledge, and skills.

Skills

- Swift, Objective-C
- Tools: XCode
- Frameworks: Cocoa Touch
- Data Storage: SQLite, Plist, UserDefaults
- Parsing Techniques: XML, JSON
- Web Services: REST, SOAP

Education

Computer Science Engineering
New York University of Technology
Aug 2013 - Nov 2017
with aggregate of 6.3%

Higher Secondary Education
The Texas Modal School

Experience

IOS Developer
Edu-Tech Solutions LLC Jul 2017 - Present
As a Developer I am responsible in

- Gathering the requirements
- Create UI Designs, screens
- Trial and error development and

4. References

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