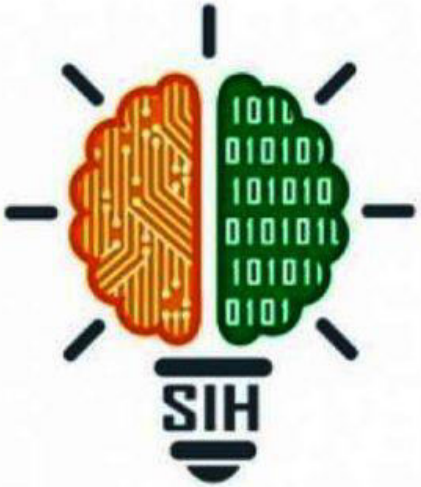


SMART INDIA HACKATHON 2020

PRESENTED BY :-

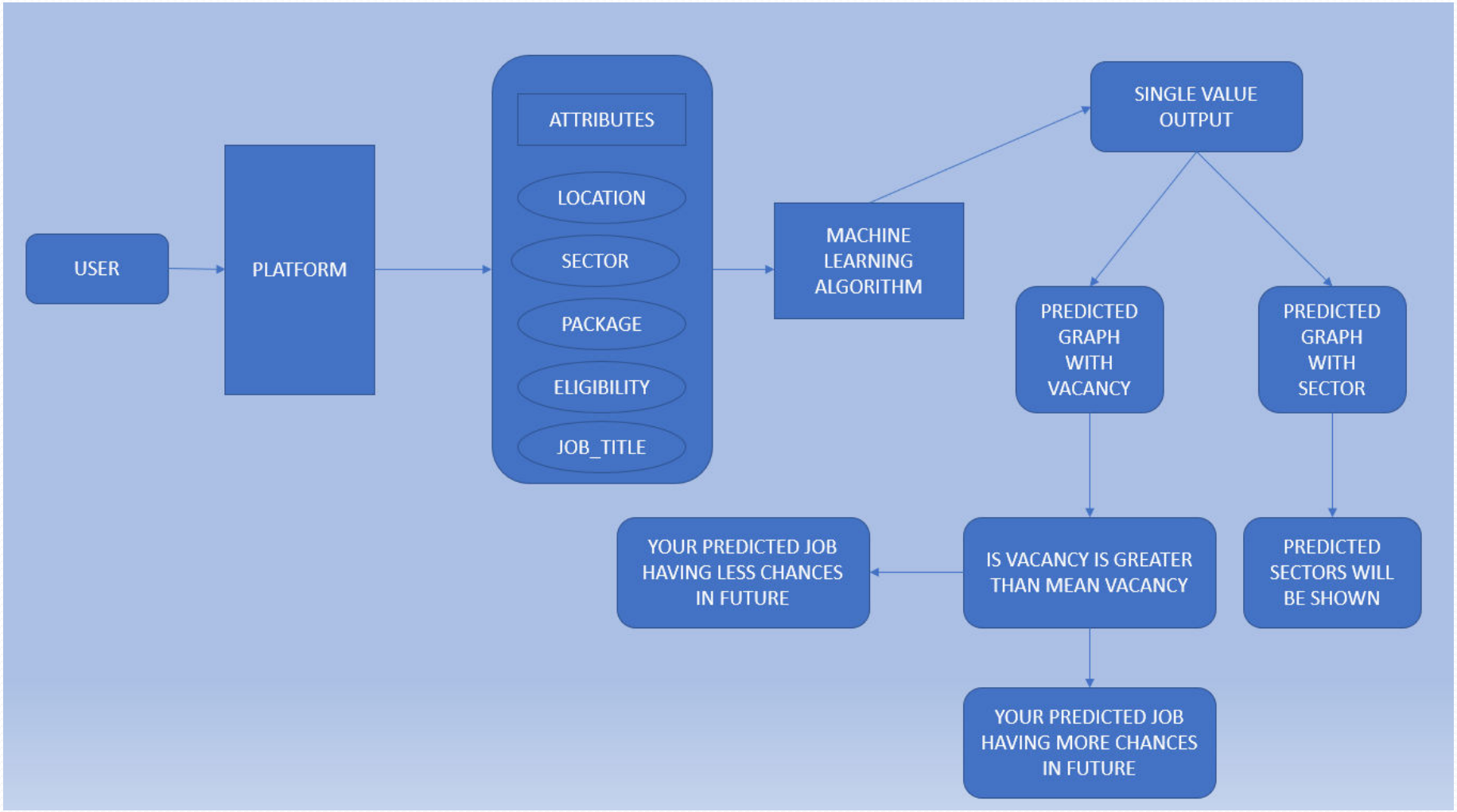
TEAM TAKSHASHELA

BHARATI VIDYAPEETH'S COLLEGE OF ENGINEERING, LAVALE

PROBLEM STATEMENT

The objective of our team is to develop a software solution to predict the future jobs based on location, sector, package and eligibility. Big data analysis can be useful to collect and analyze the data from different job sites and predict the future requirement applying machine learning.

ARCHITECTURAL DIAGRAM



BACKEND DEVELOPMENT

- The initial and the biggest challenge for us, was to find the data that replicates the real world scenario of jobs as the data was not provided to us by the customer, for which we explored the web like baggle but was unsuccessful to fulfill the need of the problem statement requirement.

- Then, we explored many websites with the help of tool such as Dataminer and created a dataset by cleaning it using numpy and panda libraries that achieved what the problem statement desires.

- We have even implemented various machine learning algorithms after which we have framed XGboost and Random forest with good score, so, we further narrow it down to RMSE values. As, the RMSE value gives better accuracy so we choose XGboost as our final algorithm due to its low RMSE values.

- Till now we have executed XGboost algorithm on our dataset which gives various predictions and a good accuracy score.

- We have also executed the graphs between the predicted values with other attributes to find the variance.

- **The technologies we have used till now are Sklearn for feature attraction and algorithms, Matplotlib notebook for plotting, Numpy and Pandas for data framing, MySQL for the database and for prototyping we have used Jupyter Notebook. We are further working on flask for connectivity and security.**

- **While working on the algorithms we found that the string has to be converted into numeric values as ML accept better accuracy to it. So, we converted it into labels by using Label Encoding.**

- **Since one attribute named Eligibility was having an issue with it so we weren't able to use Label Encoding, as each data in that particular cell has to separate it, so we used Count Vectorizer technique, which segregates each cell. After it, we got better results while working with the algorithms.**

- **We have worked on different algorithms and find out the accuracy scores and RMSE values, the table will show the outcomes: -**

Sr. No	ALGORITHM USED	ACCURACY SCORE	RMSE VALUES
1	XGBOOST	43.18	13.83
2	KNN	34.20	14.87
3	RANDOM FOREST	43.11	13.80
4	NAVIES BAYES	6.00	29.96
5	DECISION TREE	13.30	18.47
6	LINEAR	37.30	18.00
7	LOGISTIC	42.5	19.33
8	SVM	7.60	19.03

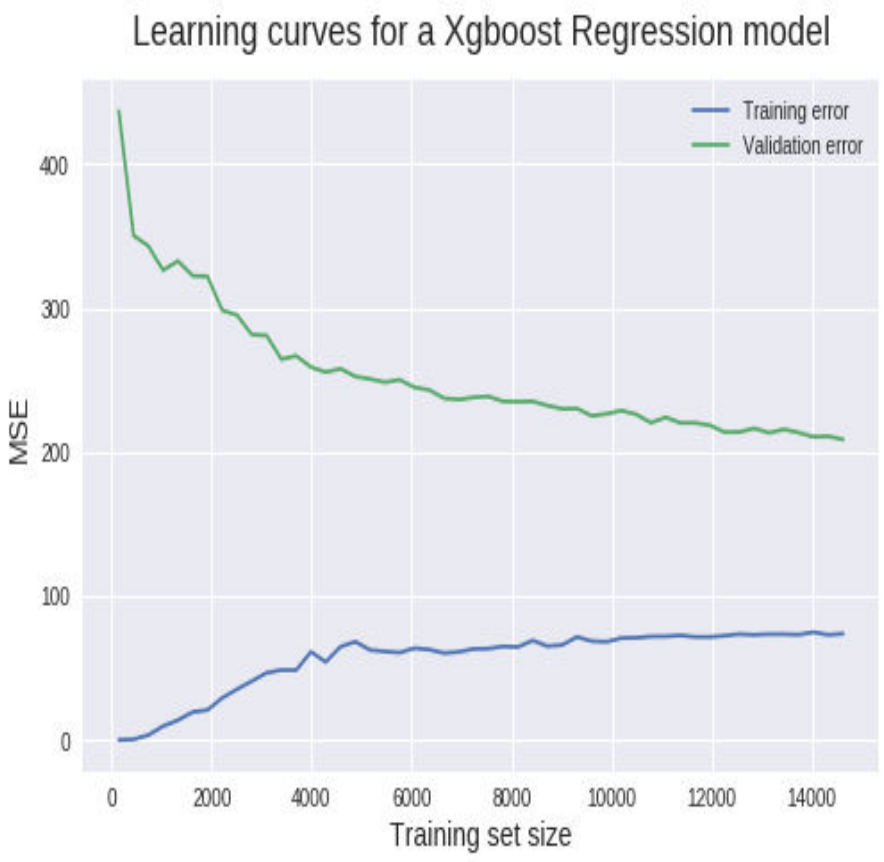
- **For more classification we go to insights and checked the learning curves with gives us better knowledge about with algorithm to apply in our project.**

- **We also plotted the graphs of the current data after training the model which other attributes which will help for the user to know for better approach.**

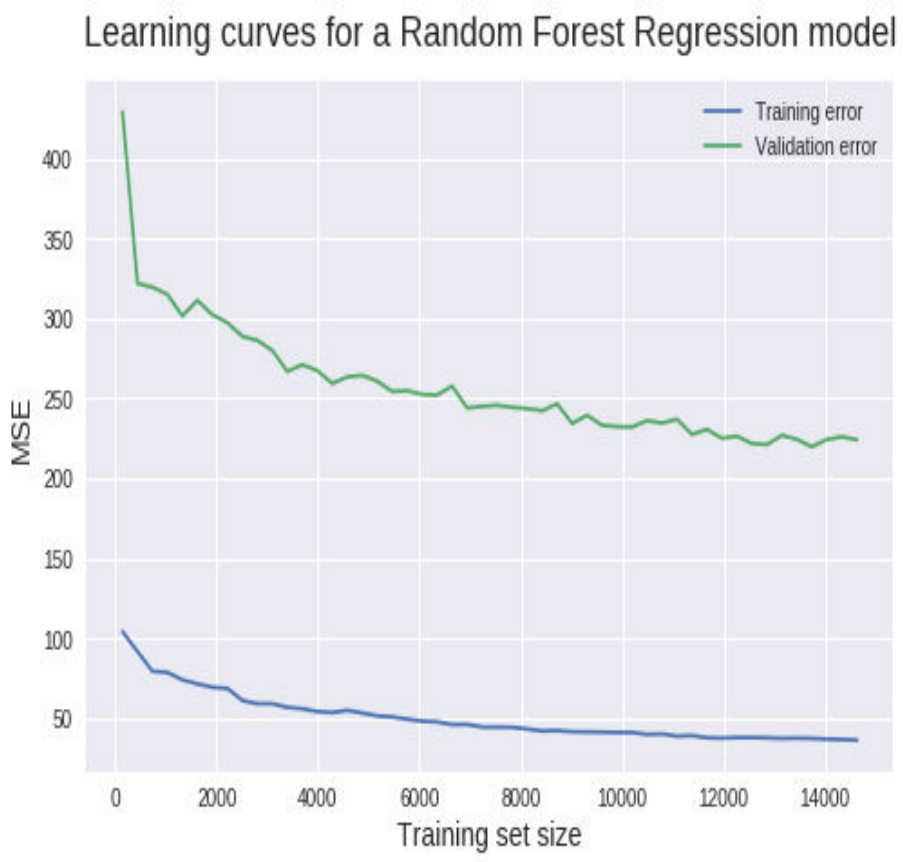
- **We have worked on the prediction graphs which will give better idea for the future jobs in respect with vacancy as well as sectors.**

- **We have worked on the connectivity through flask.**

LEARNING CURVES OF ALGORITHM



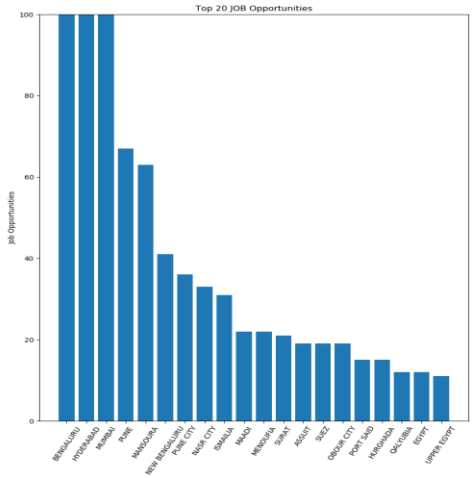
XGBoost



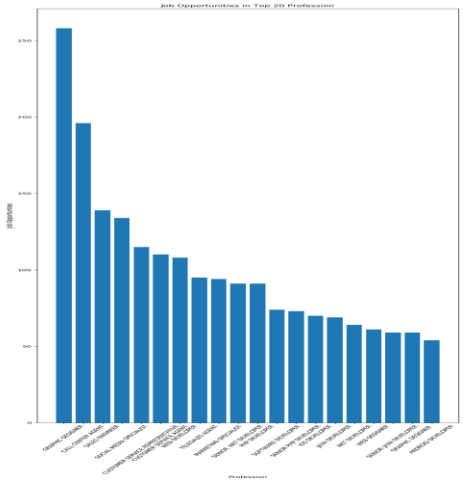
RANDOM FOREST

CURRENT DATA PLOTTING AGAINST VARIOUS ATTRIBUTES AFTER TRAINING THE MODEL

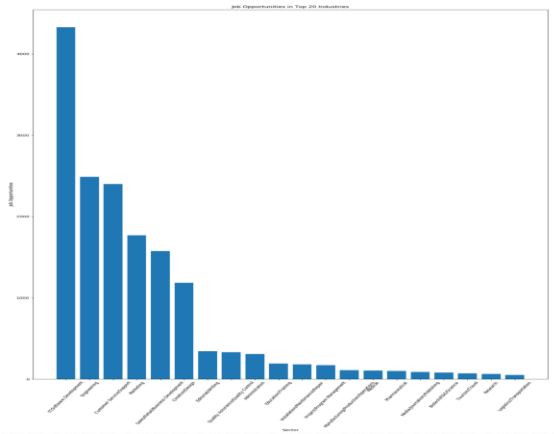
LOCATION - VACANCY



PROFESSION - VACANCY



SECTOR - VACANCY



FRONTEND DEVELOPMENT

- The execution of the project started with the index page which the user will visit it first.

- So, firstly the user needs to login or signup to our website in order to get the desired job prediction.

- For that we have provided them login, signup and trending graphs buttons in header section.

- So after successful login the user will be redirected to the home page of the website, in which we will take input from him through simple dropdowns. This dropdowns are like education, job title, sector, city and salary expectations. After filling this form the data will be sent to the prediction algorithm and the corresponding output will be shown.

- We have used frontend technologies such as HTML5, CSS3 and Bootstrap for designing the web pages. We also used Flask which is a python framework for the connectivity of the backend and frontend.

- **We tried to keep the design of the website simple and easy to handle for the end user.**

- **We have provided the proper buttons and links so that the user can go back and forth easily.**

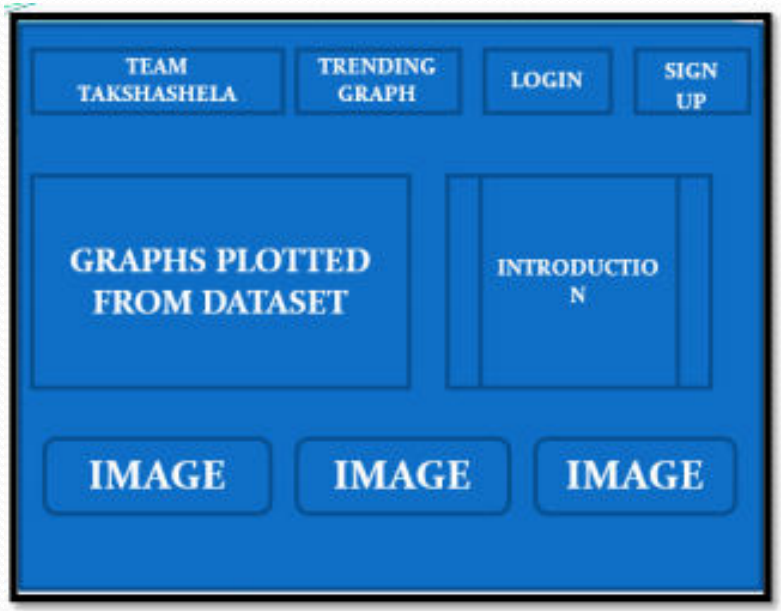
- **We also given description about each and every trend which helps the user to look closely to what he wants to search for, and helps to find the required job very easily.**

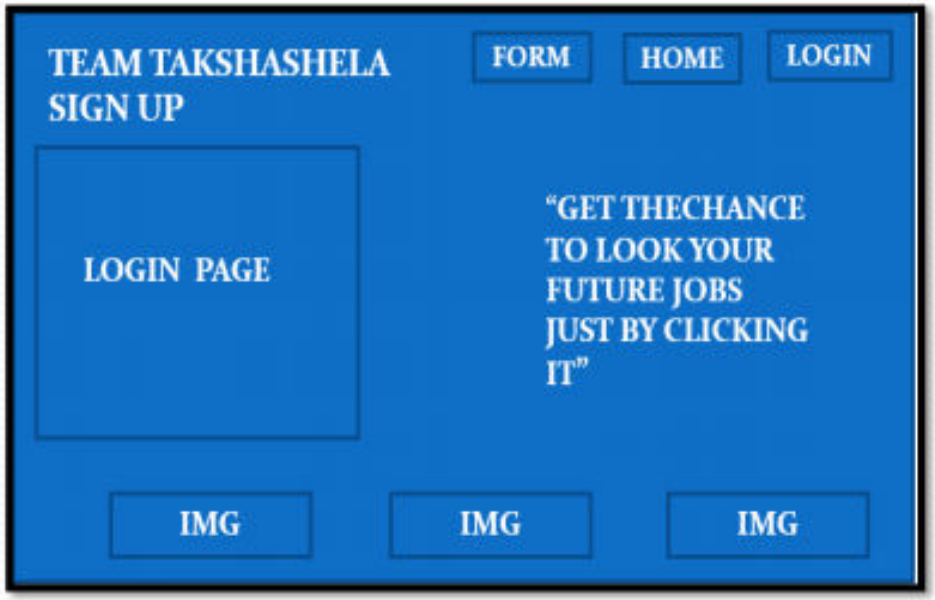
- **We have predicted sectors after the requirements given to us by the user, which helps the user to know whether his/her sector will be in demand in future.**

FRONTEND WITH FLASK

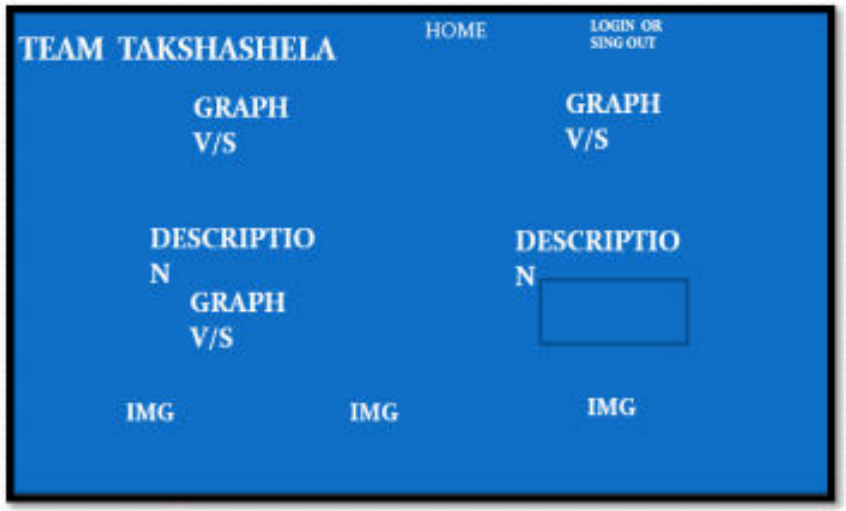
- **We have connected our index, signup, login and other html pages with flask framework.**
- **In signup page all the credentials will save in MySQL database.**
- **We have use SQLAlchemy for connectivity with databases.**
- **In login page credentials we fulfil all the criteria which will redirect to the main page and if not, message will be flashed with wrong credentials.**
- **The credentials will be extracted from MySQL database to check if it is correct.**
- **We are developing our main page which will take various inputs which will be processed with the backend connectivity.**
- **We are also working on the result page where we will show the predicted out with different functions.**

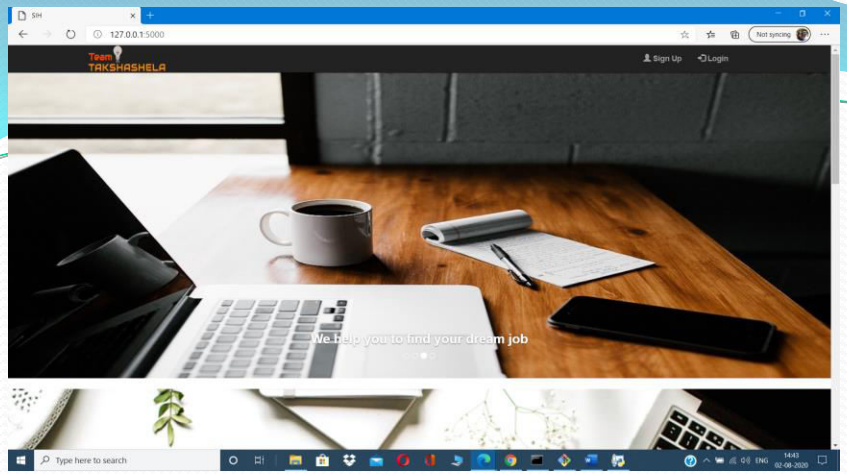
WIREFRAME

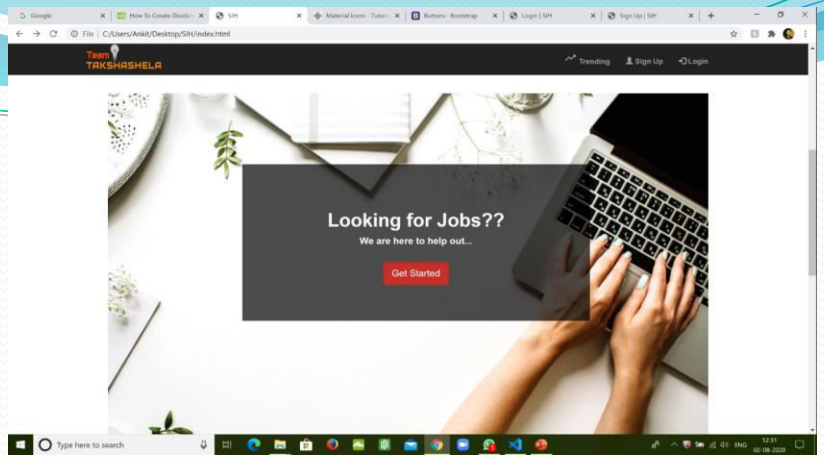

TEAM TAKSHASHELA
TRENDING GRAPH
LOGIN
SIGN UP
GRAPHS PLOTTED FROM DATASET
INTRODUCTIO N
IMAGE
IMAGE
IMAGE


TEAM TAKSHASHELA SIGN UP
FORM
HOME
LOGIN
LOGIN PAGE
"GET THECHANCE TO LOOK YOUR FUTURE JOBS JUST BY CLICKING IT"
IMG
IMG
IMG

TEAM TAKSHASHELA
TRENDIN G
HOME
LOGOUT
PREDICT
PREDICTED GRAPH
DESCRIPTI ON
WOULD YOU LIKE TO TRY AGAIN FOR ANOTHER JOB CLICK AGAIN
IMG
IMG
IMG


TEAM TAKSHASHELA
HOME
LOGIN OR SING OUT
GRAPH V/S
GRAPH V/S
DESCRIPTIO N
GRAPH V/S
DESCRIPTIO N
IMG
IMG
IMG


Team TAKSHASHELA
Sign Up
Login
We help you to find your dream job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Trending
Sign Up
Login
Looking for Jobs??
We are here to help out...
Get Started

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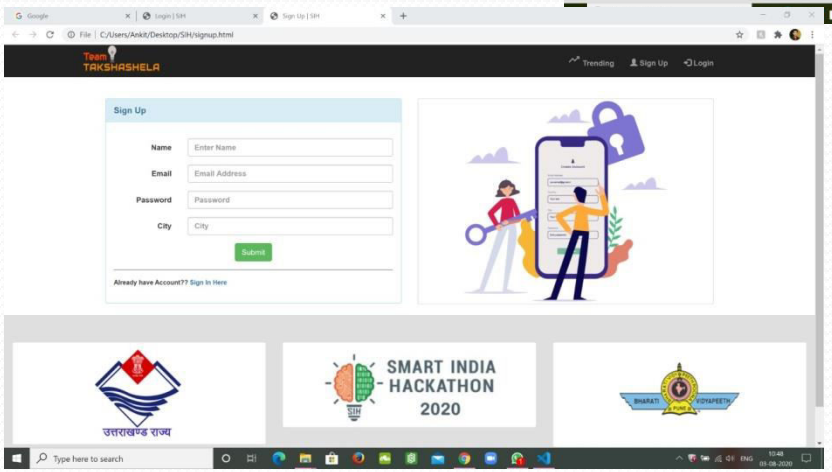
Trending
Sign Up
Login
Job Opportunities in Top 20 Jobs Title
Introduction
"The best way to predict the future is to invent it"
-Abraham Lincoln
We are here to help you to create a bright future. Your job search goal will be to find and secure that job. This site reaching out to help you in your job search as we walk down that path . The key to your personal success involves using the appropriate techniques to gain a competitive edge by putting this information to use. This site is not a one-size-fits-all formula. It requires your interaction and your personal touch.


Team TAKSHASHELA
Trending
Sign Up
Login
Sign Up
Name
Enter Name
Email
Email Address
Password
Password
City
City
Submit
Already have Account?? Sign In Here
उत्तराखण्ड राज्य
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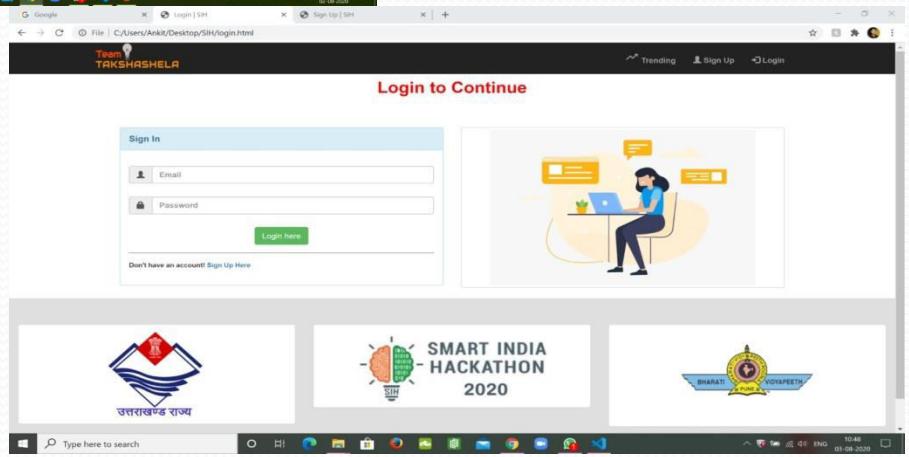
Team TAKSHASHELA
Trending
Sign Up
Login
Login to Continue
Sign In
Email
Password
Login here
Don't have an account! Sign Up Here
उत्तराखण्ड राज्य
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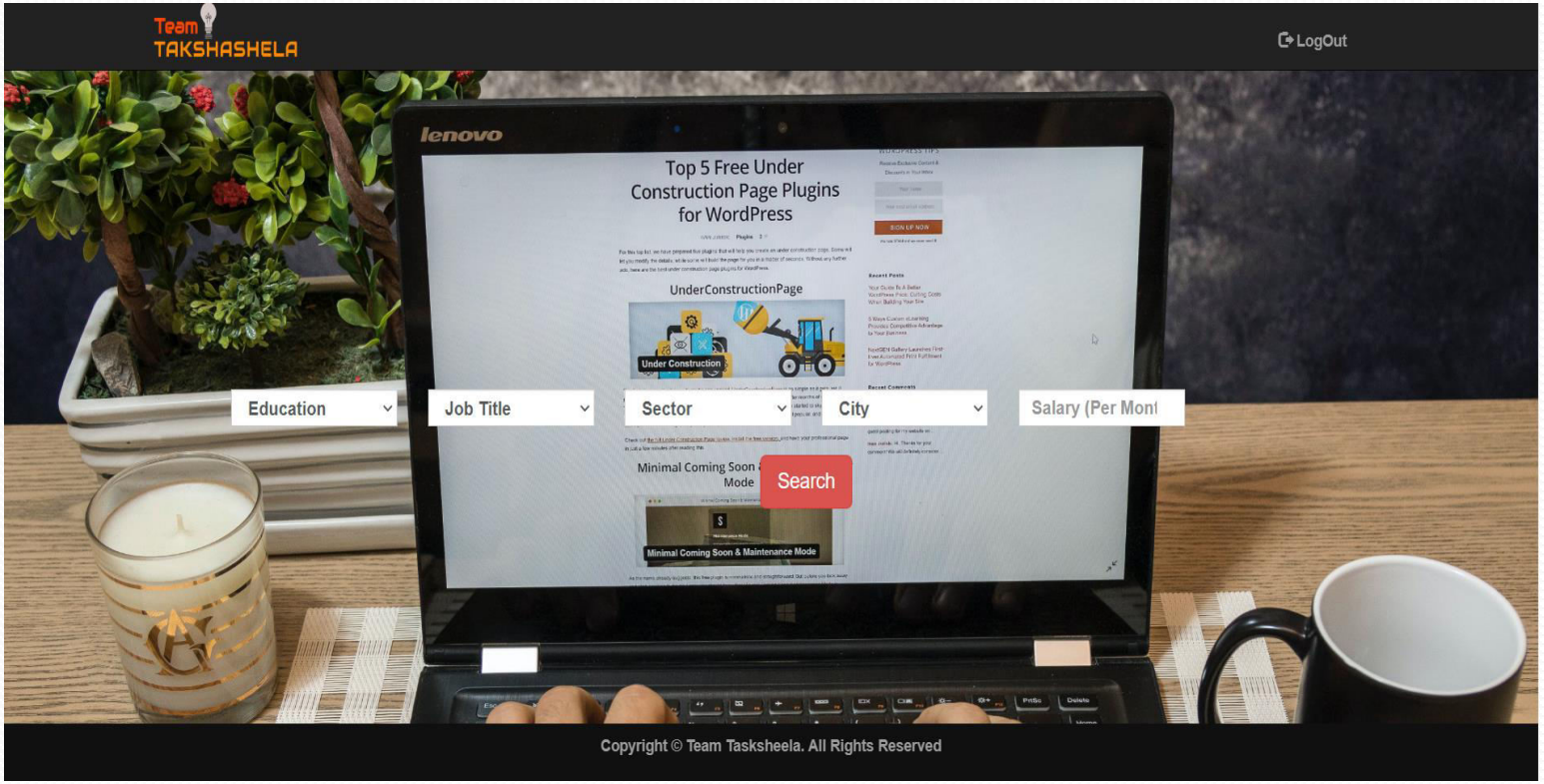
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LogOut
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Top 5 Free Under Construction Page Plugins for WordPress
UnderConstructionPage
Under Construction
Minimal Coming Soon & Maintenance Mode
Education
Job Title
Sector
City
Salary (Per Mont
Search
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THANK YOU