**Data Science Live Project**

**15th June- 31st july 2020** horizontal line

# OVERVIEW

Cloud Counselage is a Pan India IT, Management, and Career services provider. To expand its reach across all the colleges in Mumbai and surrounding colleges that might be interested to collaborate with the company and develop a data visualisation and data segmentation model for the applications of Internship Program.

# PROBLEM STATEMENT

Students from different cities from the state of Maharashtra had applied for the Internship Program at Cloud Counselage. A dataset consisting of information of all these students is the dataset provided for this project.Interns are expected to build a data visualization model and find the best data segmentation model using the student’s dataset.

# GOALS

The main objective of this project is to identify the best classification model that perfectly segments the data with respect to the target variable and develop a data visualisation model to display the results.

# SPECIFICATIONS

Hardware: Laptop/ Desktop with Linux/Windows/Mac OS

Software: Anaconda, Jupyter Notebooks,

Python Libraries: Pandas, Numpy, Matplotlib, SciKit Learn

## Dataset

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## System Design

* Data Loading
* Data wrangling
* Data preprocessing
* Exploratory Data Analysis
* Model classification
* Model Validation

# Output

* F1 Score of data classification model
* Pdf of Data Visualisation Plots

**Comparison of various classifiers**

|  |  |
| --- | --- |
| **Classification Model** | **F1 Score** |
| Logistic Regression | 0.71 |
| Decision tree | 0.86 |
| SVM | 0.82 |
| Random Forest Classifier | 1.0 |

# CONCLUSION

After analysing various classification models, the random forest classification algorithm was found to give the highest F1 score among all the others. Hence in this project the final model implemented was the random forest classifier and data visualisation model was built to plot the graphs. All the plots are combined into a single PDF file using PdfPages. This was the project assigned to me under my internship tenure at Cloud Counselage.