



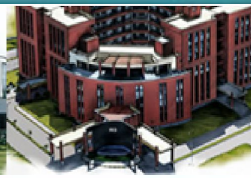
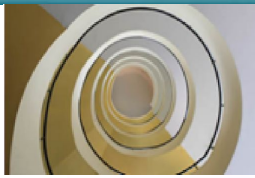
Department of Computer Science & Engineering

UE17CS355 - Web Tech II Laboratory

Project Evaluation

Project Title : Analysis and Visualization of Healthcare Data
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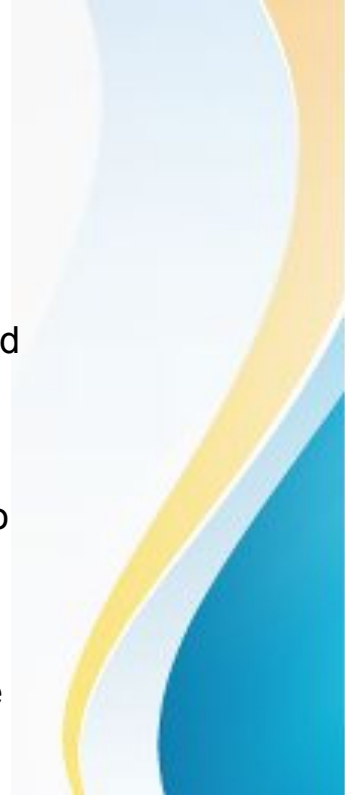


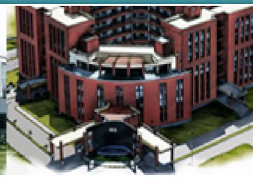
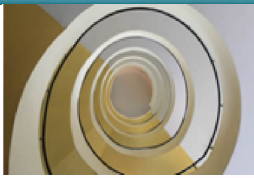


Project Description

- The project consists of the analysis of a stroke related healthcare dataset.
- The pages in our website are
 - Home
 - Log in
 - Stats (Statistics+EDA)
 - Prediction
 - Change Data
- The Log in authenticates the user's credentials. By logging in, the admin is redirected to “Change Data” page where they can add or delete entry from the database.
- The Stats options leads to a page that shows the various forms of visualizations performed on the dataset.
- Furthermore, the Prediction page gives the prediction of whether a person is likely to suffer from a stroke

Thus, this project aims at bringing awareness to strokes and its primary causes. Several factors such as age, gender, etc were considered for the analysis to provide an interactive insight into the influence of these factors on strokes.





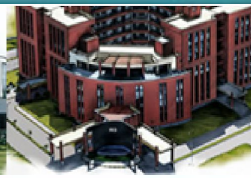
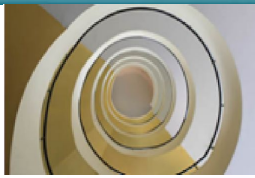
Technologies Used

- Front End Framework used:
 - ◆ Vue js

- Backend Framework used:
 - ◆ Flask using Python

- Main Libraries:
 - ◆ flask- for RESTful API
 - ◆ plotly- interactive visualization
 - ◆ sklearn- for python machine learning model





Techniques Implemented

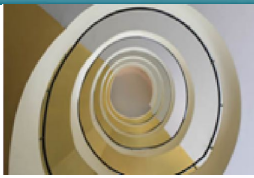
1. **Periodic Refresh using XHR calls:**

When users are added or deleted from the dataset, these changes would be reflected in the visualizations since there is a periodic refresh. Thus, no permanent changes would persist ensuring that analysis and visualization is done based on the most recent updated data.

2. **RESTful API calls :**

API 's using flask have been used for adding and deleting a user. They have also been used for plotting the visualizations and the prediction model.





Intelligent Functionality

1. Interactive visualizations based on analysis of the data set.
2. Machine Learning: A Decision Tree model was used to train the dataset used. Output from this functionality includes:
 - a. A prediction of whether a stroke will suffer from a stroke or not based on inputted information of a user.
 - b. Correlation matrix indicating the influence of each factor on the prediction.
 - c. Confusion matrix of the model.
 - d. Performance metrics of the model such as Recall, F1 Score and Precision.





Thank You

