Detailed Project Report

Project title: Prediction of Insurance Premium

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Scope:

The scope of the Insurance Premium Prediction project involves developing a machine learning model to accurately predict insurance premium amounts based on customer demographics, policy information, claims history, and external factors. It includes data collection, preprocessing, and feature engineering to enhance model performance. The project aims to select and train appropriate machine learning algorithms, create a user-friendly interface for input and retrieval of premium predictions, integrate the model into a deployment infrastructure, and ensure scalability, reliability, and security.

Data Collected:

The Data is collected from the kaggle.

Feature Engineering:

Feature engineering plays a crucial role in the Insurance Premium Prediction project. It involves analyzing the collected data and identifying relevant features that contribute to accurate premium predictions. Various techniques such as data transformations, scaling, and handling missing data and outliers are applied to enhance the predictive power of the model. By carefully engineering the features, the project aims to capture important patterns and relationships in the data, ultimately improving the accuracy and reliability of the premium predictions.

Model development and evaluation:

The models which were used are like Linear,gradient boosting,kmeans,Random Forest,Decision Tree etc.The models will be evaluated using appropriate metrics to assess their performance and accuracy.

Here,the Gradient Boosting have given its best accuracy score.

Thereafter,the machine learning pipeline are being created in the model and then the artifacts were created.

then ,the project is coped up with the HTML pages and the setup to run our flask application on the local host is being done.

the project were deployed in many of the deployable cloud platforms.

Summary:

The insurance premium price prediction have given the prediction of the expenses for the several features which were independent of themselves and the expenses were dependent on the features which were important for predicting.

The prediction and its accuracy is at its best of accuracy score which was able to derive by us.