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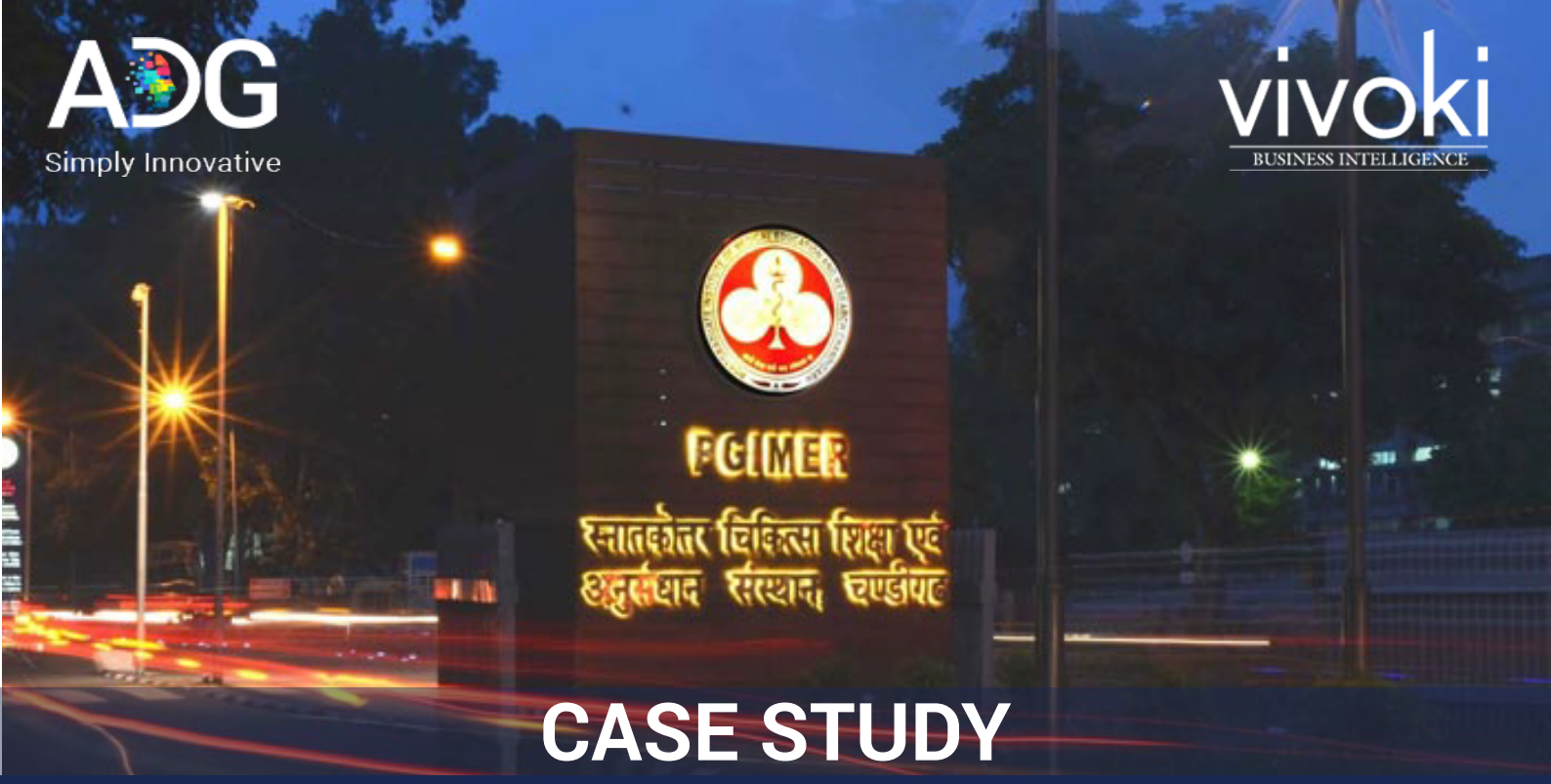

CASE STUDY

ASSESSMENT OF DIAGNOSIS ON SKIN DISEASE

In the present world Skin disease is a major problem among people worldwide. Different machine learning techniques can be applied to identify classes of skin disease. Herein, we have applied machine learning algorithms to categorize classes of skin disease using ensemble techniques, and then a feature selection method is utilized to compare the results obtained.

METHOD

In the current Case Study, we present a new method which applies six different data mining classification techniques, and then develop an ensemble approach using Bagging, AdaBoost and Gradient Boosting classifier techniques to predict classes of skin disease. Furthermore, a feature importance method is utilized to select the most salient 15 features which will play a major role in prediction. A subset of the original dataset is obtained after selecting the 15 features, to compare the results of six machine learning techniques, and an ensemble approach is applied to the entire dataset.

TECHNOLOGY

Machine Learning Algorithms , Regression Analysis, Data Analysis, Data Science.

RESULTS

The ensemble method is compared with the subset obtained from the feature selection method. The outcome shows that the dermatological prediction accuracy of the test dataset is increased as compared to the use of an individual classifier, and improved accuracy is obtained as compared with the feature selection subset method.

CONCLUSION

The ensemble method and feature selection applied to dermatology datasets yields a better performance as compared to individual classifier algorithms. The ensemble method provides a more accurate and effective skin disease prediction.