Abstract

Over the past decades there has been several techniques found to overcome the data analysis problem in most of the science domains such as engineering, astronomy, biology, remote sensing, economics, consumer transactions etc. It is required to reduce the dimension of the data (having less features) in order to improve the efficiency and accuracy of data analysis. Traditional statistical methods partly calls off due to the increase in the number of observations, but mainly because of the increase in number of variables associated with each observation. As a consequence an ideal technique called Principal Pattern Analysis is developed which encapsulates feature extraction and categorize features. Initially it applies principal component analysis to extract eigen vectors similarly to prove pattern categorization theorem the corresponding patterns are segregated. Certain decisive factors as weight vectors are determined to categorize the patterns. Experimental results have been proved that error approximation rate is very less too it's more versatile for high dimensional datasets.

References

- Pearson, K.: On lines and planes of closest fit to systems of points in space. Philosophical Magazine 2(6), 559–572 (1901)
- Alexey Tsymbal, Seppo Puuronen, Mykola Pechenizkiy, Matthias Baumgarten, David Patterson "Eigenvector-based Feature Extraction for Classification";

Index Terms

Computer Science

Artificial Intelligence
Keywords
Principal Component Analysis  Eigen Vectors  Dimensionality Reduction