

Download Geometric Data Analysis : An Empirical Approach To Dimensionality Reduction And The Study Of Patterns

Principal component analysis (PCA) is a statistical procedure that uses an orthogonal transformation to convert a set of observations of possibly correlated variables (entities each of which takes on various numerical values) into a set of values of linearly uncorrelated variables called principal components. Introduction Developments in the field of statistical data analysis often parallel or follow advancements in other fields to which statistical methods are fruitfully applied. Cluster analysis or clustering is the task of grouping a set of objects in such a way that objects in the same group (called a cluster) are more similar (in some sense) to each other than to those in other groups (clusters). 1. Introduction. Artificial Intelligence is generating data in new forms of complexity, leading to the new era of big data . This brings big challenges for researchers from various fields working together to extract patterns or new structures from data of very high volume, high velocity, or high variety.