Abstract

In the first chapter we introduce definition of eigenvalues and eigenvectors , how can it's calculating and illustrate the importance of the topic by demonstrating some of its applications , and then define the Diagonalization after that number of examples were presented to find the eigenvalues and eigenvectors . In chapter two, the Singular Value Decomposition was defined and properties of (SVD) with simple notes and observations. Theorems and examples and life applications of the Singular Value Decomposition are introduced.