## 1. Dimensionality Reduction

Motivation I：Data Compression

Motivation II: Visulization

Principal Component Analysis Problem Formulation

Reduce from 2-dimension to 1-dimension : Find a directon (a vector u(i)) onto which to project the data so as to minimize the projection error

Reduce from n-dimension to k-dimension: Find k vectors u(1),u(2),...,u(k) onto which to project the data, so as to minimize the projection error.

PCA is not linear regression

## 2.Summary:

Advice for applying PCA



