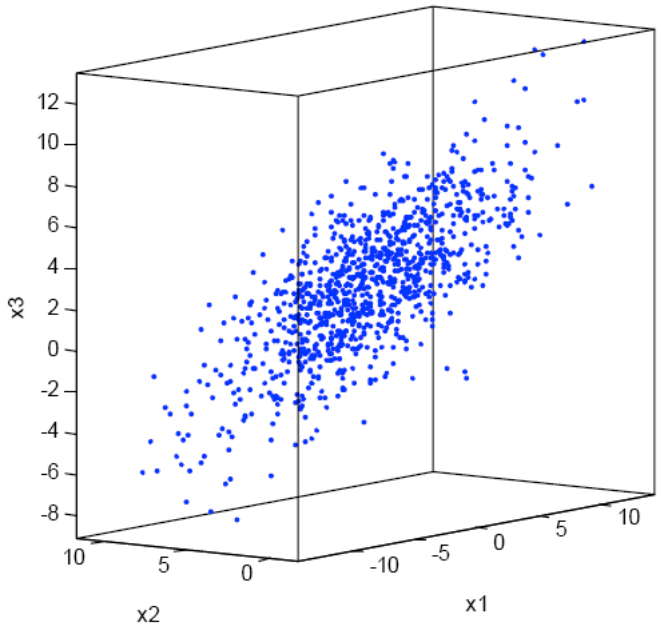
PCA example

- **In this example we have a three-dimensional Gaussian distribution with the following parameters**

$$\mu = [0 \;\; 5 \;\; 2]^T \text{ and } \Sigma = \begin{bmatrix} 25 & -1 & 7 \\ -1 & 4 & -4 \\ 7 & -4 & 10 \end{bmatrix}$$



- **The three pairs of principal component projections are shown below**
  - Notice that the first projection has the largest variance, followed by the second projection
  - Also notice that the PCA projections de-correlates the axis