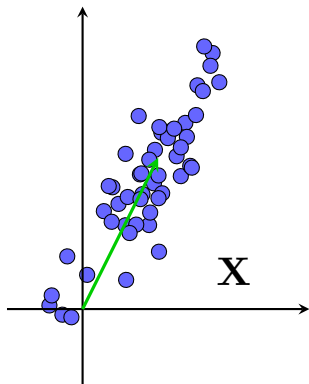
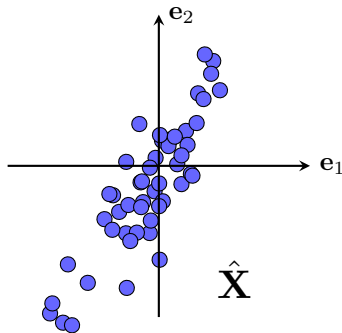


PCA procedure

1. Find mean vector



2. Subtract mean



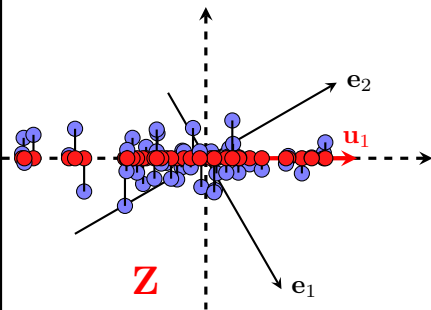
3. Compute covariance matrix:

$$\mathbf{S} = \frac{1}{N} \hat{\mathbf{X}} \hat{\mathbf{X}}^T$$

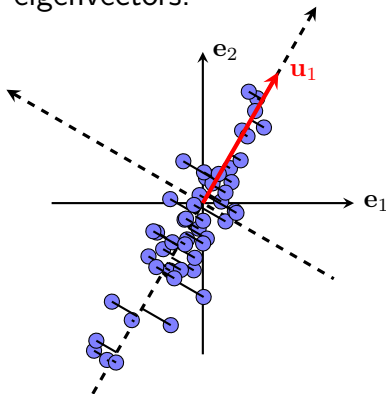
4. Compute eigenvalues and eigenvectors of \mathbf{S} :
 $(\lambda_1, \mathbf{u}_1), \dots, (\lambda_D, \mathbf{u}_D)$

Remember the orthonormality of \mathbf{u}_i .

7. Obtain projected points in low dimension.



6. Project data to selected eigenvectors.



5. Pick K eigenvectors w. highest eigenvalues

