➢ **Unsupervised learning: seeking representations of the data**

➢ **Clustering: grouping observations together**

➢ **K-means clustering**

➢ **Application example: vector quantization**

➢ **Hierarchical agglomerative clustering: Ward**

➢ **Connectivity-constrained clustering**

➢ **Decompositions: from a signal to components and loadings**

➢ **Independent Component Analysis: ICA**