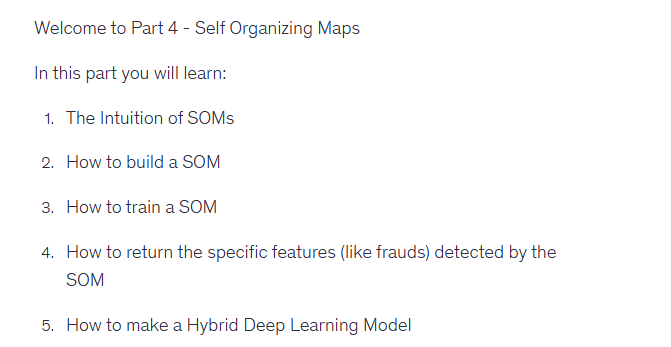
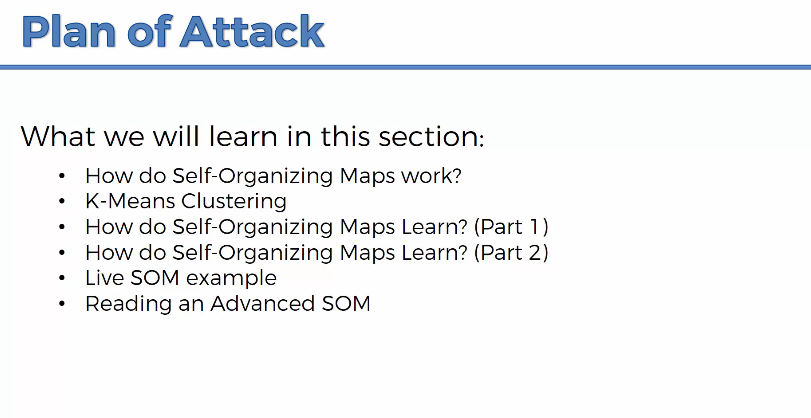
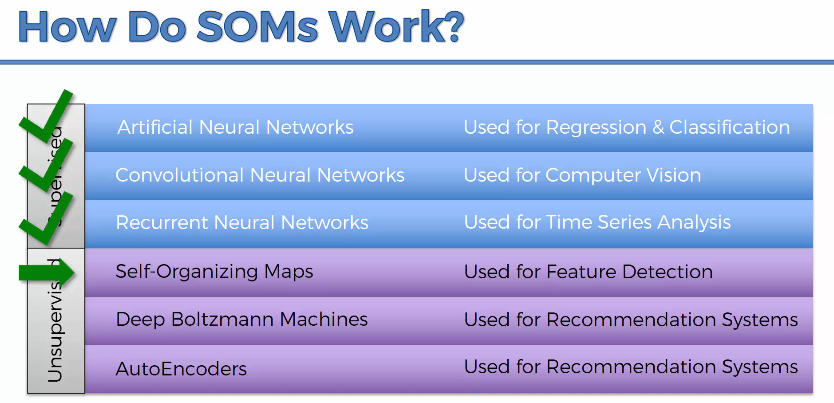
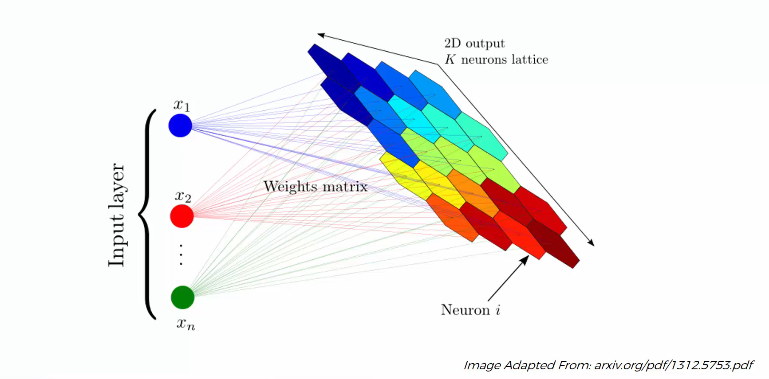
# Self-Organizing Maps



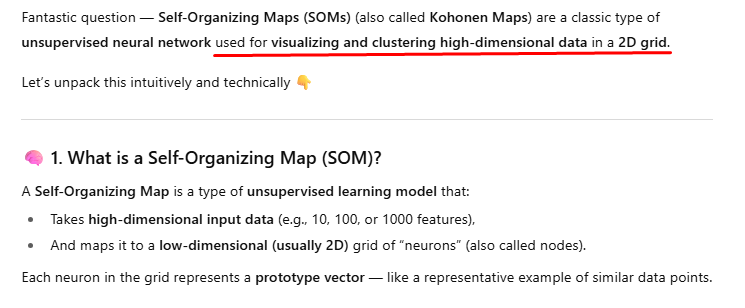


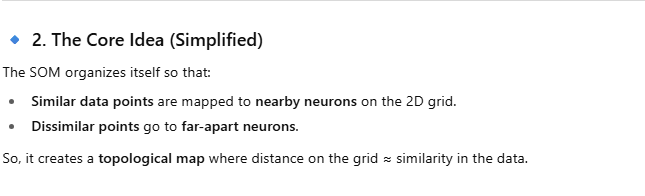
## How do SOMs work?

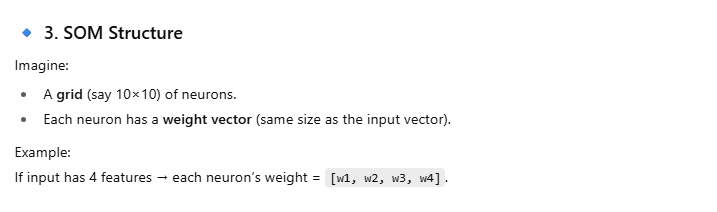


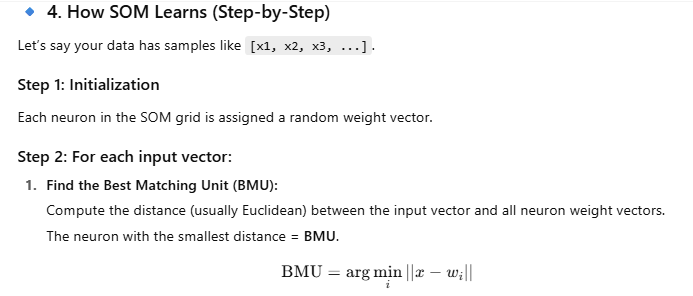


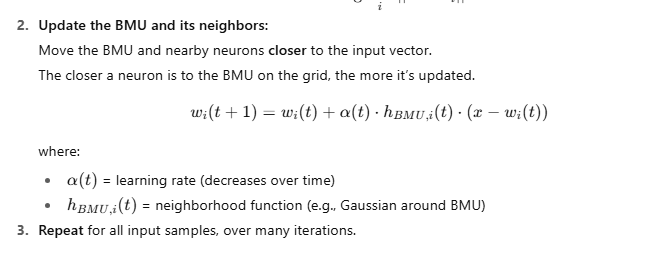
There can be a lot of features in reality. Main intention of SOM is to reduce these number of features by mapping them to 2-D grid of neurons (also called nodes).

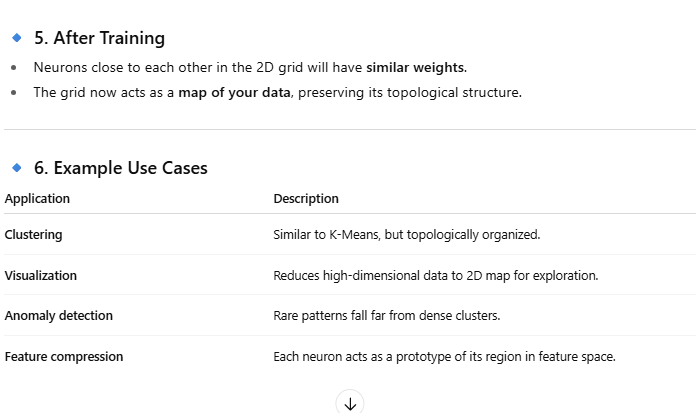


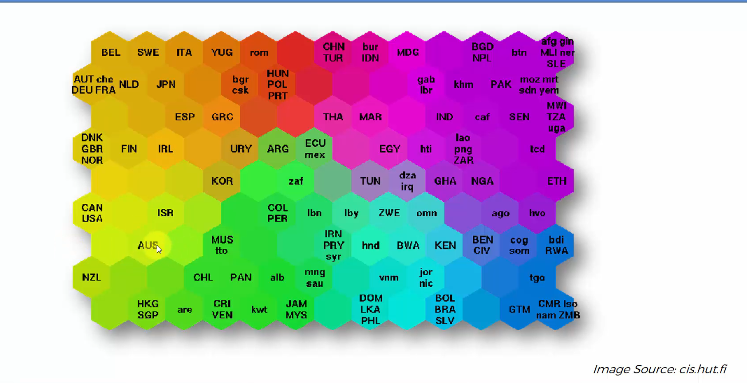




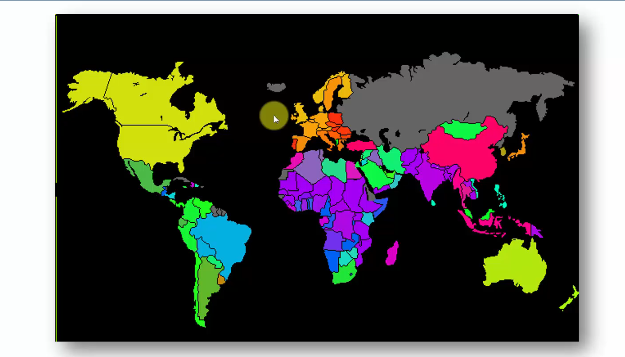


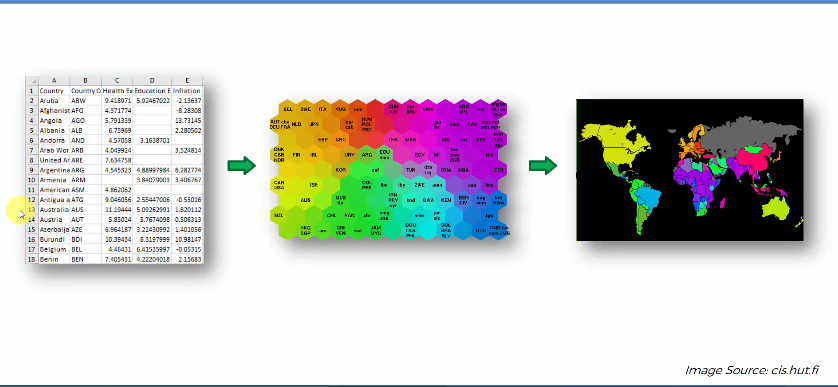


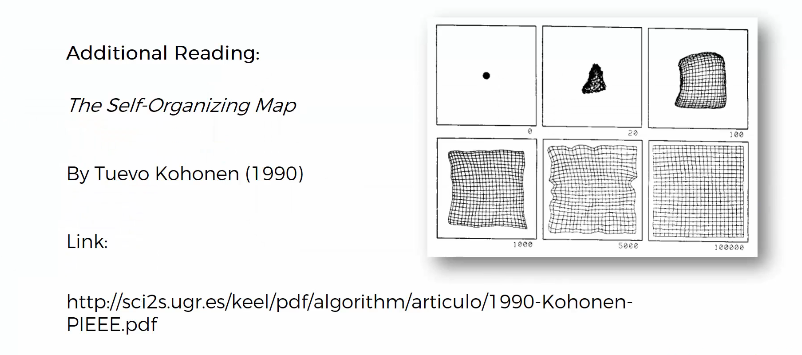




SOMs have training data, but they are not labeled. There is no output column in training data. Above picture of 2-D map shows the countries from least poverty level to highest poverty level. It groups the data based on input features.







## K-Means Clustering