

Hands-on: Stock/Sensor Data Clustering

Time Series Clustering Implementation Workflow

1 Dataset Selection

Yahoo Finance or UCI sensor data



2 Preprocessing

Normalization & resampling

z-score

interpolate



3 DTW Distance

Implement distance function

Python/NumPy



4 Hierarchical Clustering

Apply DTW linkage

scipy.cluster



5 Compare K-Shape

Alternative algorithm comparison

tslearn



6 Visualization

Plot clusters & centroids

matplotlib



7 Interpret Results

Identify similar behaviors



Data Sources

Yahoo Finance (stocks) • UCI ML Repository (sensors)



Key Question

Which stocks/sensors behave similarly?