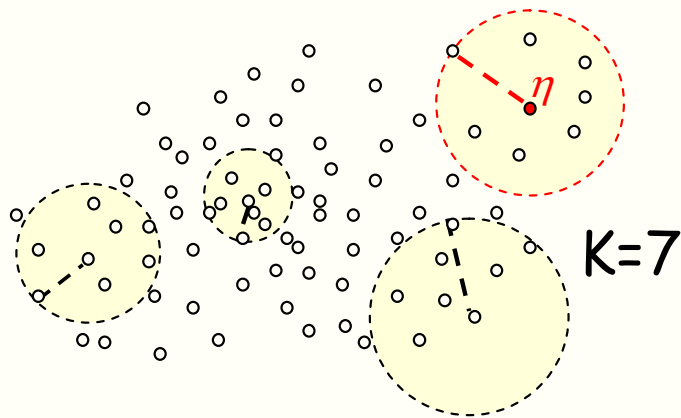


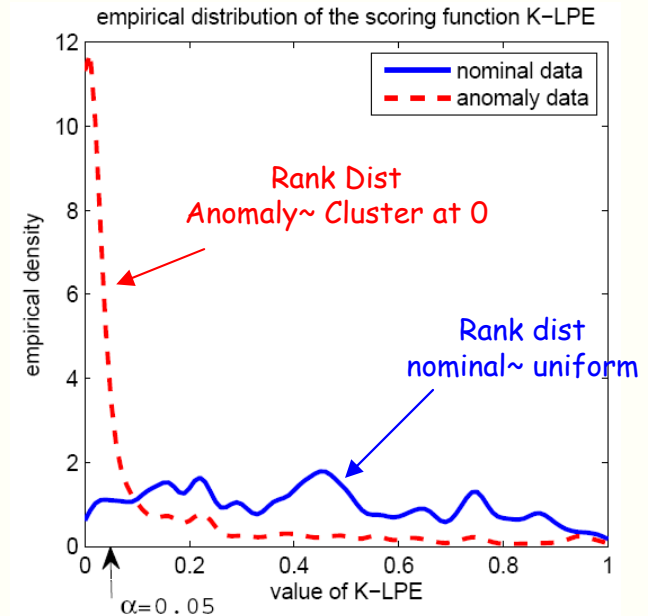
Anomaly Detection via K-NNG

Manqi Zhao and Venkatesh Saligrama, Boston University

Given: Nominal Data + Test Sample (nominal or anomaly)
Rank according to K nearest neighbor distances
Declare test sample as anomaly if rank is small



Properties:
Statistics: Optimal Asymp.
Compute: Linear in Dimension
Adapts: Manifold dimension



Rank of $X \rightarrow$ estimate of min volume level set containing X

