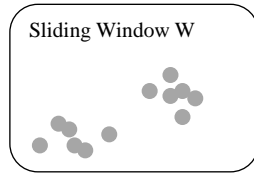


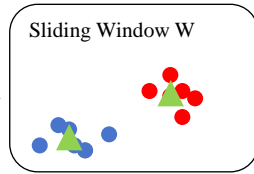
The streaming data



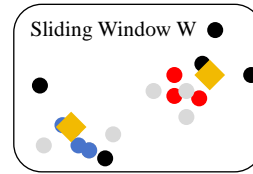
Stage 1: Incremental Clustering in Sliding Window.



Establish the
sliding window.



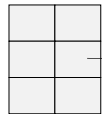
DPC-guided stable
initialization



New data points ●
The old point to remove ●
New cluster centers ◆

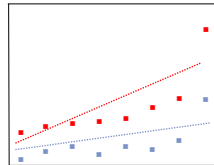


Stage 2: Real-time Incremental OFV Maintenance.



OFV History

Update the total
OFV value of
each dimension.



Fitting curve of total
OFV value change.

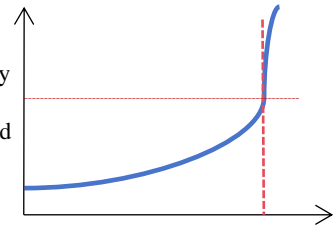


Stage 3: Derivative-Based Anomaly Scoring.

OFV of each
dimension

The slope of the
curve was fitted
to the total OFV
value

Anomaly
Score
threshold



Output: Anomaly/Normal Label for X_{new}