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Challenges in outlier detection

a) **Modelling normal objects & outlier effectively**
- comprehensive model building is challenging as it is hard to enumerate all possible behaviour
- some just give labels

b) **Application specific outlier detection**
- different application may have different requirements
- Eg in some cases → small deviation & market → large fluctu

c) **Handling noise in outlier detection**
→ can distort data, blurring the distinction b/w outliers & normal objects.

d) **Understandability**

→ provide justification

→ for example likelihood of

* Data Mining for Financial Data Analysis :-

→ " " pattern techniques have been used to extract hidden pattern & predict future trends & behaviour in financial market

→ Benifits :-

(I) Efficient
(II) Effective
(III) Accurate
(IV) Scalable
(V) Economical
(VI) Time Saving.

(I) Money Laundering & Financial Crime
(II) Loan Payment Prediction
(III) Classification & Clustering of Customers for targeted marketing.
(IV) Also checks huge amount of transactions.

* DBSCAN :-

→ Density Based Clustering

→ DBSCAN is used for arbitrary shaped clusters unlike K-means and K-medoids.

→ Required two parameters
  (i) Radius
  (ii) Min^m no of points in that radius.

→ 3 - types of data point :-
  (i) Core point :-
    at a point (no. of points > min^m points)
  (ii) Border Point :-
    fewer than min^m point within the radius.
  (iii) Noise / Outlier :-
    Neither core nor Border

* Data Mining & Recommendar System

→ deals with likes & dislikes of the user.

→ main objective is to recommend an item to user which has high chance of liking.

→ Based on user's previous purchases.

→ Cares about liking & disliking without being biased.

→ Aim is to supply high quality system recommendation for user community.

→ Two types
  (i) User based Recommendation :-
  → gives recommendation from the other user having same interest as ours.
  (ii) Item Based ... :-
  → Recommends based on rating of that item