



SNS COLLEGE OF TECHNOLOGY

AN AUTONOMOUS INSTITUTION

COIMBATORE 35



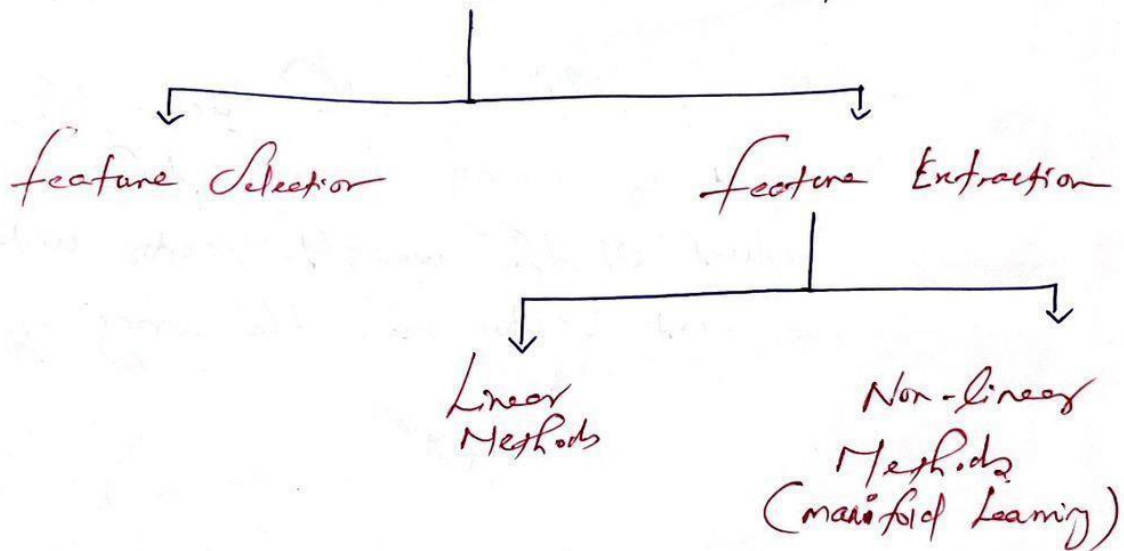
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

## The Curse of Dimensionality:-

Refers to the difficulties a Machine Learning algorithm faces when working with data in the higher dimensions, that did not exist in lower dimensions. This happens because when you add dimensions (features),

The Minimum data requirement also Increase <sup>(10)</sup> rapidly.

## Dimensionality Reduction Techniques

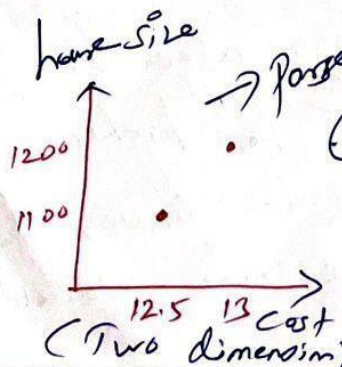


Example:-

Training dataset Dimension

House Size (sq. Ft)	House location	No. of bed rooms	No. of Bathroom	Cost of house
1200	10 Date points	13	5	13L
1100				12.5L
1150				12L

1D  
 → 12.5 13 12.5 L  
 Cost of house  
 (one dimension)



Dimension Increase  
 More no. of data  
 ⊗ If ML needs to understand the Generalization of data what does data points mean? Have to add more pts