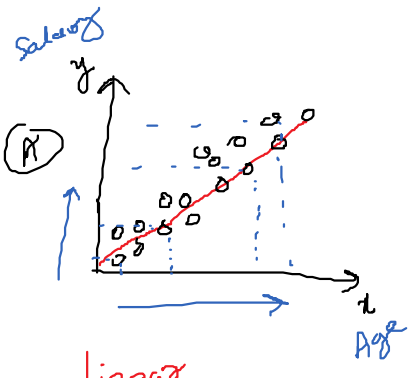
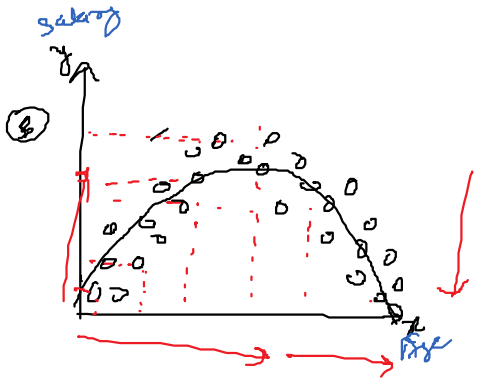
Correlation Analysis

20 April 2022 16:49



linear relationship

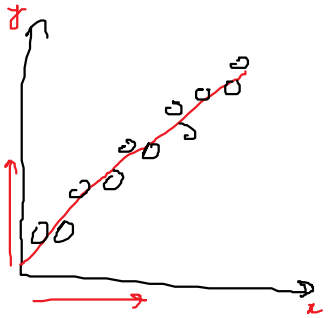


non linear relationship

Correlation: a measure of linear relationship b/w two variables

$$corr(x,y) \rightarrow -1 \text{ to } +1$$

$$(corr(x,y) = \frac{\frac{1}{n}\sum (x-\bar{x})(y-\bar{y})}{\sigma_x \cdot \sigma_y}$$

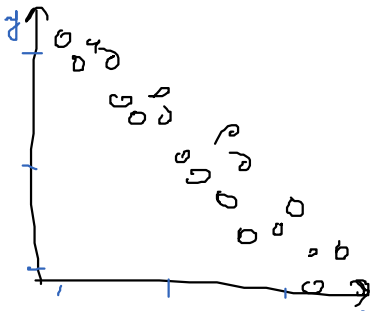


x increases → y increases

corr(x,y) = +ve

corr(x,y) > +0.5 = strong | v good

is b/w +0.1 to 0.5 weak | slightly good



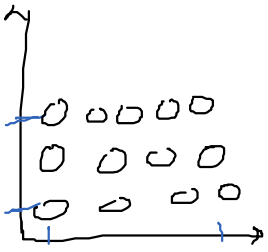
x increases → y decreases

corr(x,y) = -ve

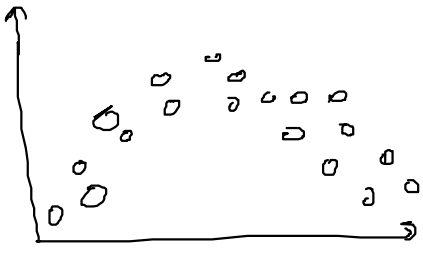
& corr(x,y) < -0.5 v good | strong

corr(x,y) is b/w -0.1 to -0.5

weak | slightly good



x & y have



x & y have non linear relation

x & y have no relation

x & y have non linear relation

corr(x,y) ≠ 0 bad

−0.1 to +0.1