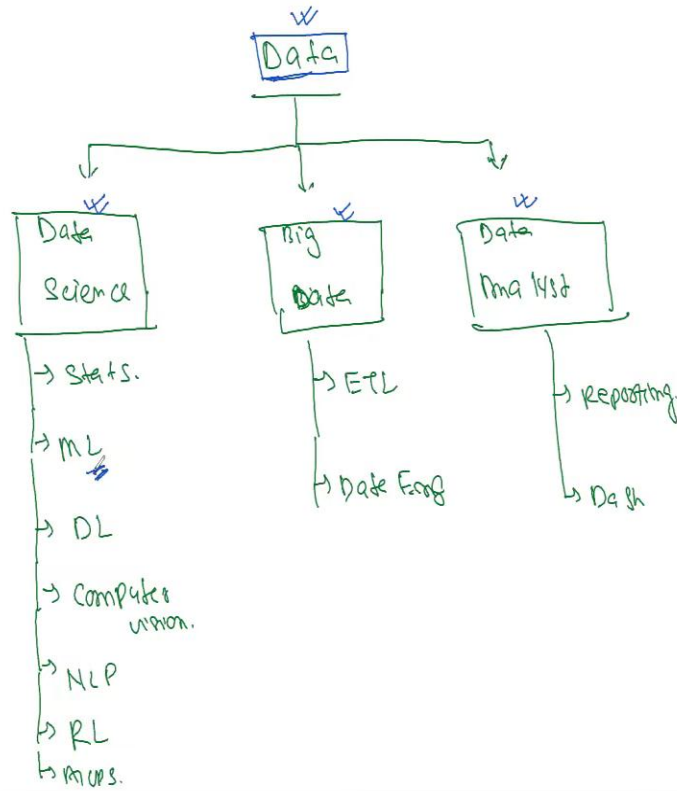


Machine learning



- Data Science
- Big Data
- Data Analytics
- cloud
- hardware
- UI/UX App

ML

	<u>Height</u>	<u>Weight</u>
①	→ 5.3	50
②	→ 5.4	60
③	→ 5.5	59
④	5.1	53
⑤	6.2	75
⑥	6.1	78
	59	

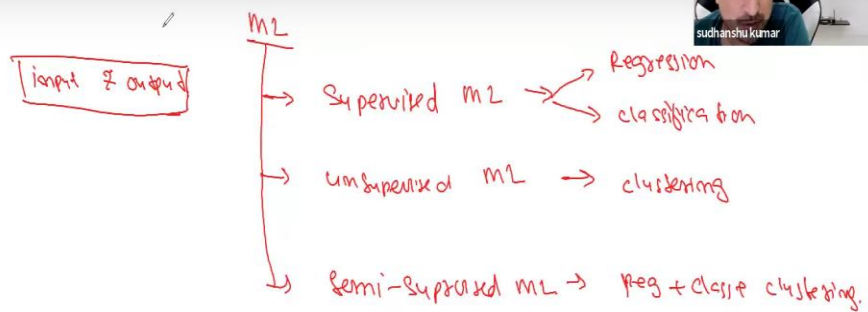
$w \propto 1-1$

$w = m|1| + e$

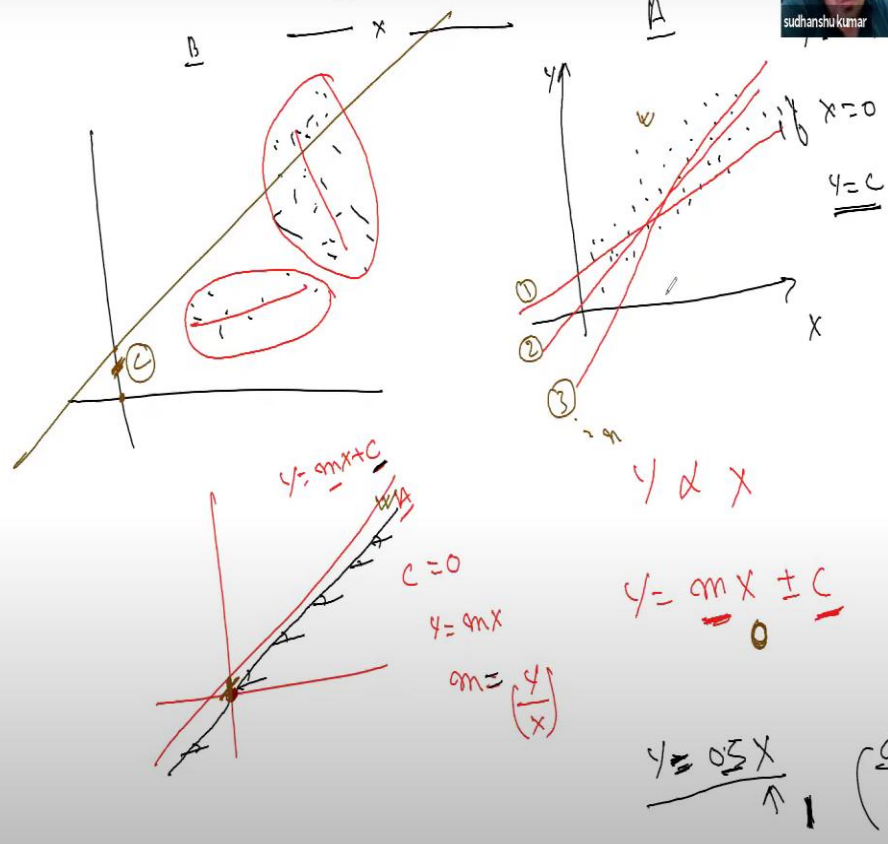
$m = 0.5$
 $e = 0.7$

$w = 0.5H + 0.7$

$P_5 H$



lineat Regression





Handwritten notes showing calculations for weights and bias in a linear model.

Initial weights and bias:

- $w_1 = 50$, $w_2 = 52.4$, $w_3 = 54.8$
- $b = 50$

Calculated values:

- 47.866 , 5042 , 52.97
- 5.1 , 5.2 , 5.3
- 6.2 , 6.1
- 5.8
- 5.8 , 5.7 , 5.1

Linear model equation:

$$w = mH + e$$

Calculated values for w :

- 50 , 49 , 53
- 26 , 24

Calculated values for m and e :

- $m_1 = -10$, $m_2 = 2555$
- $e_1 = 101$, $e_2 = -82.44$

Linear model equation:

$$50 = m \times 5.1 + e \quad \text{--- (1)}$$

$$49 = m \times 5.2 + e \quad \text{--- (ii)}$$

Solving for w :

$$w = -10.1 + 101 \quad \text{--- (A)}$$

$$w = 2555.1 - 82.44 \quad \text{--- (B)}$$

$$w = 2472.66 \quad \text{--- (C)}$$

Calculated values for w :

- $w_1 = 42$
- $w_2 = 68305$
- $w_3 = 68.2$



Handwritten notes showing the optimization problem:

$$\text{arg min } (m, c)$$

Handwritten notes showing the partial derivatives of the cost function with respect to m and c :

$$\left(\frac{de}{dm} \right), \left(\frac{de}{dc} \right) = 0$$

