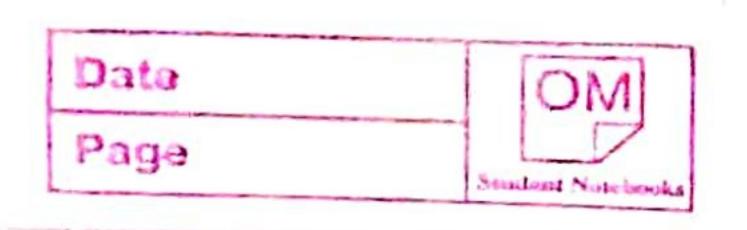


## \* Gravesia discriminat andysis (GDA)

$$\phi = \frac{1}{m} \sum_{i=1}^{m} 1 \{y^{(i)} = 1\}$$

$$\frac{1}{2} = \frac{1}{2} \left\{ \frac{1}{2} \left( \frac{1}{2} \right) \right\} = 0$$



$$M_{*} = \sum_{i=1}^{\infty} 1\{g(i) = 1\} \chi^{(i)}$$

$$\frac{2}{2} + \left(2\sqrt{3}\right) = 1$$

$$= \frac{1}{m} \left[ x^{(i)} - M_{\delta}(i) \right] \left( x^{(i)} - M_{\delta}(i) \right)$$

- Flyld) is multivariete gaussian than
  P(yld) necessarly follows a logistic
  function.
- The Converse, however is not true; i.e.
  P(yold) being a logistic function does not
  imply P(Xly) is multivaride gaussian.
- This shows that GDA makes stronger modeling assumptions about the data than does logistic oregression.
- Them modeling assumptions are correct, then aDA will find better fits to the data, and is a better model.
- In Contrast, by making Significantly weeken assumptions, logistic oregression is more orobust and less sen sittle to incorrect modeling assumptions.