

- have two P
 1. predicted value is continuous
 2. sensitive to imbalance data

2.3-a:

Maximum likelihood =

The probability that this model produces Dataset, this is likelihood and we hope that this likelihood can surpass the better, which is Maximum Likelihood

$$\theta_{MLE} = \arg \max_{\theta} \sum_i \ln p(y_i | x_i, m, \theta)$$

Maximum A Posterior

MLE believe that the probability of all θ appearing is equal and our optimization goal is $p(D|m, \theta)$

In Bayes Theorem

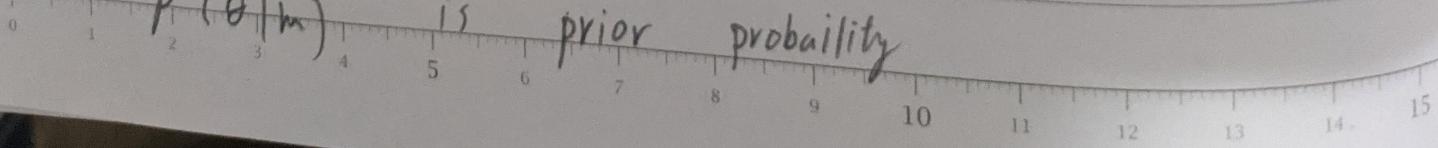
$$p(\theta | D, m) = \frac{p(D|m, \theta) p(\theta|m)}{p(D|m)}$$

$p(D|m, \theta)$ is likelihood

$p(D)$ is probability of data

$p(\theta | D, m)$ is posterior probability

$p(\theta|m)$ is prior probability



Date : _____

and MAE equation is

$$\theta_{MAP} = \operatorname{argmax}_{\theta} \left\{ \sum_i \ln p(y_i | x_i, m, \theta) \right\} + \overbrace{\ln p(\theta | m)}$$

This is distribution, if you use gaussian will get L2 regularization