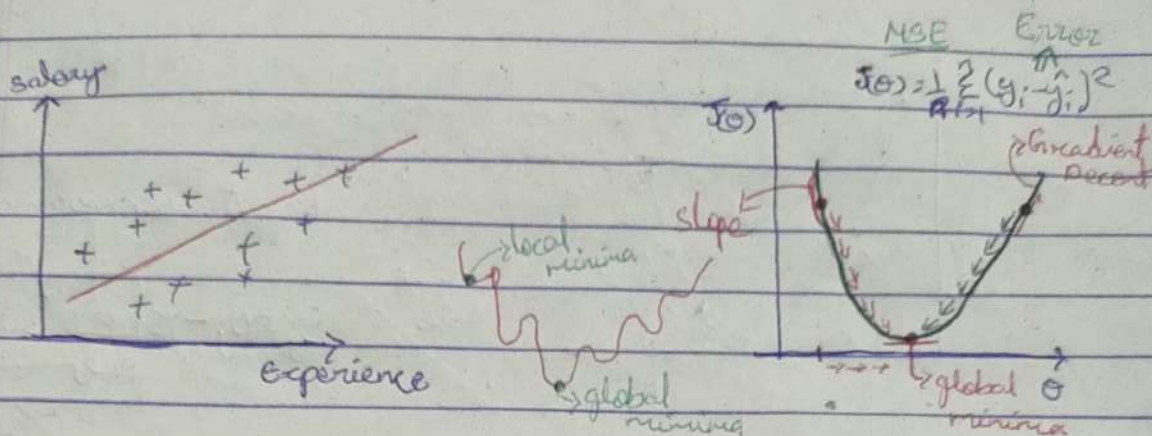


# Mean Squared Error, Mean Absolute Error and RMSE



## ① Mean Squared Error

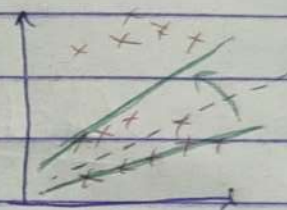
$$MSE = \frac{1}{n} \sum_{i=1}^n (y_i - \hat{y}_i)^2$$

### Advantages

- ① Differentiable
- ② It has one local and global minima

### Disadvantages

- ① Not Robust to outliers
- ② It changes its unit



## ② Mean Absolute Error

$$\text{Cost fn MAE} = \frac{1}{n} \sum_{i=1}^n |y_i - \hat{y}_i|$$

### Advantages

- ① It is Robust to outliers
- ② It will be same unit

### Disadvantages

- ① Convergence usually take more time
- ② Optimization is complex process

