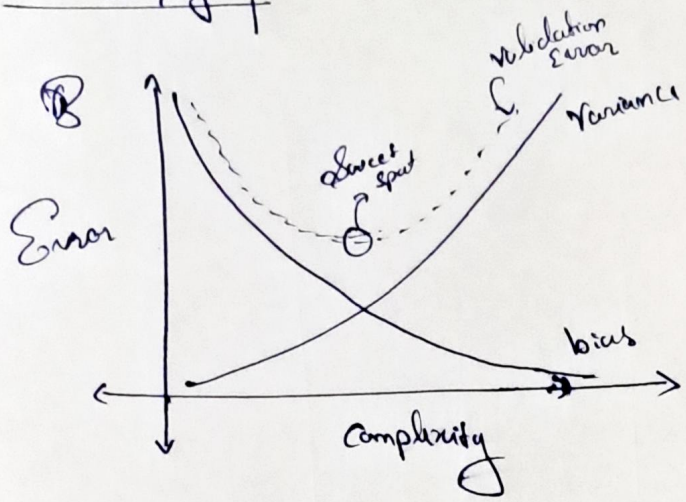
Dt:- 22 August



→ ~~Lasso~~ Restrict polynomial degree

→ Use high degree but constrain L2 norm of coefficient of polynomial

$$L2\ norm = \sqrt{\sum_{j=1}^{D} w_j^2} \leq \delta$$

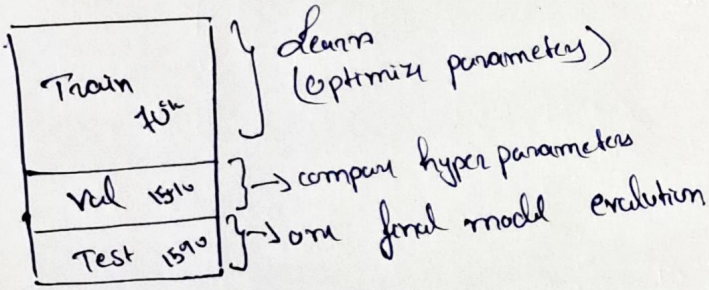
$$f(x) = \sum_{j=0}^{D} w_j x^j$$

{If all coefficient of linear regression becomes large then the variance will increase}

Metric vs Loss

↓ can be interpreted

↓ Can not be interpreted



Cross-validation

- K-folds: one fold for validation & K-1 folds for training
- Repeat folds K times
- Select framework (hyper parameter) best average performance

(1) Train K times on K-1 folds and each time validate on the held-out fold

{ML can fail to perform in deployment}