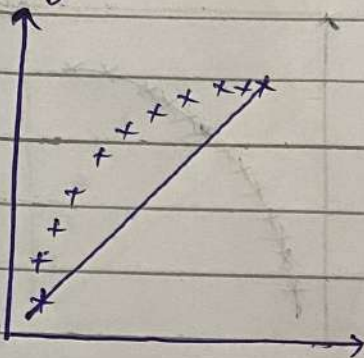


Overfitting and Underfitting

Bias \rightarrow Training data (Error)

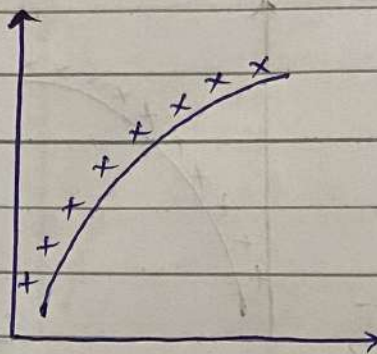
Variance \rightarrow Test data (Error)

* Regression Problem :



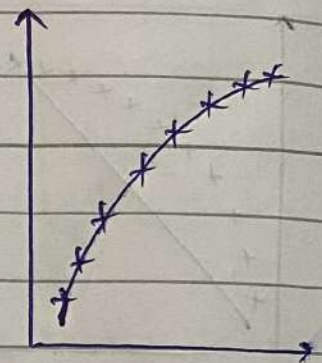
underfitting
 \downarrow

High Bias
High Variance



Generalized
 \downarrow

Low Bias
Low Variance



overfitting
 \downarrow

Low Bias
High Variance

* Classification Problem :

Model 1

Training Error = 2%

Testing Error = 25%



Low Bias
High Variance



overfitting

Model 2

Training Error = 25%

Test Error = 26%



High Bias
High Variance



underfitting

Model 3

Training Error < 10%

Test Error < 10%



Low Bias
Low Variance



Generalized