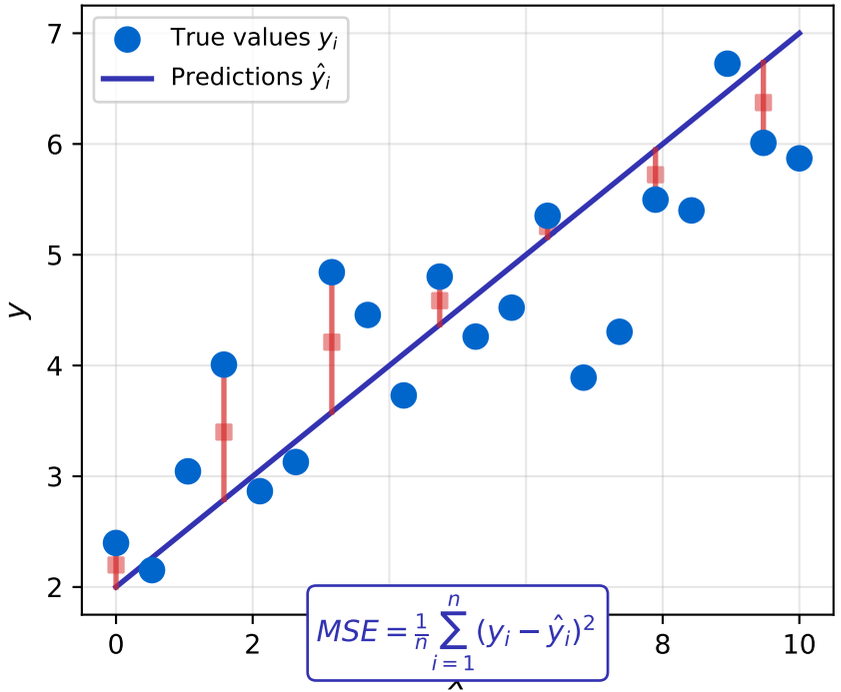
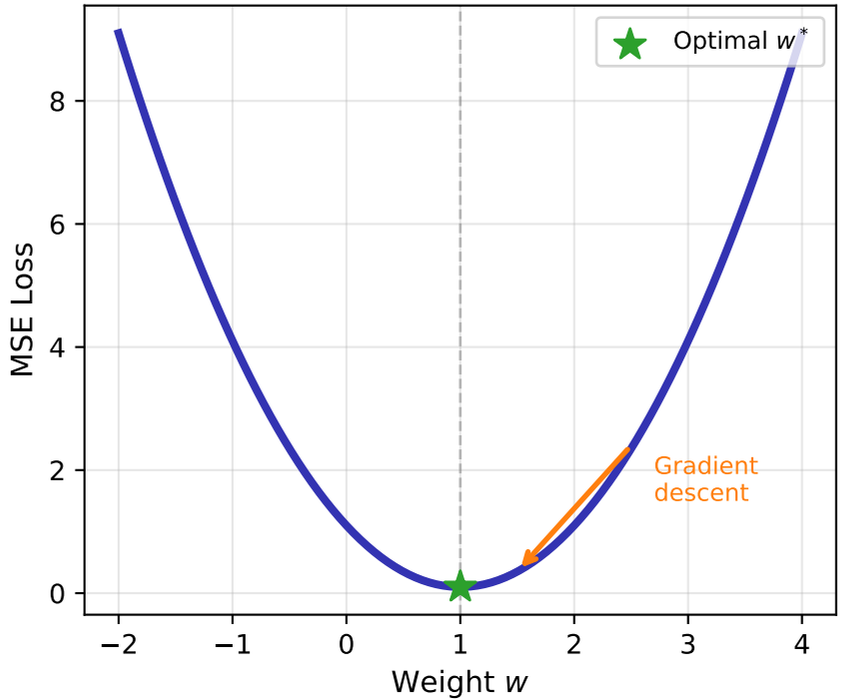
Mean Squared Error: The Classic Regression Loss

MSE: Measuring Prediction Error



Loss Landscape (1D)



MSE Properties

Convex: Single global minimum for linear models

Differentiable: Smooth gradients everywhere

Scale-sensitive: Large errors penalized more (squared)

Outlier-sensitive: Squares amplify outlier impact

Best for:

Regression problems with normally distributed errors