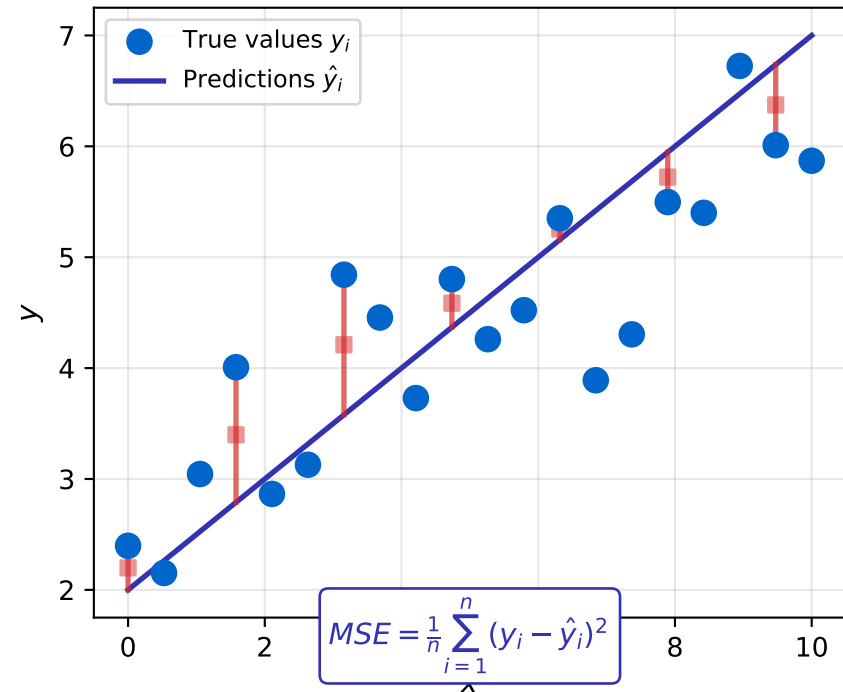
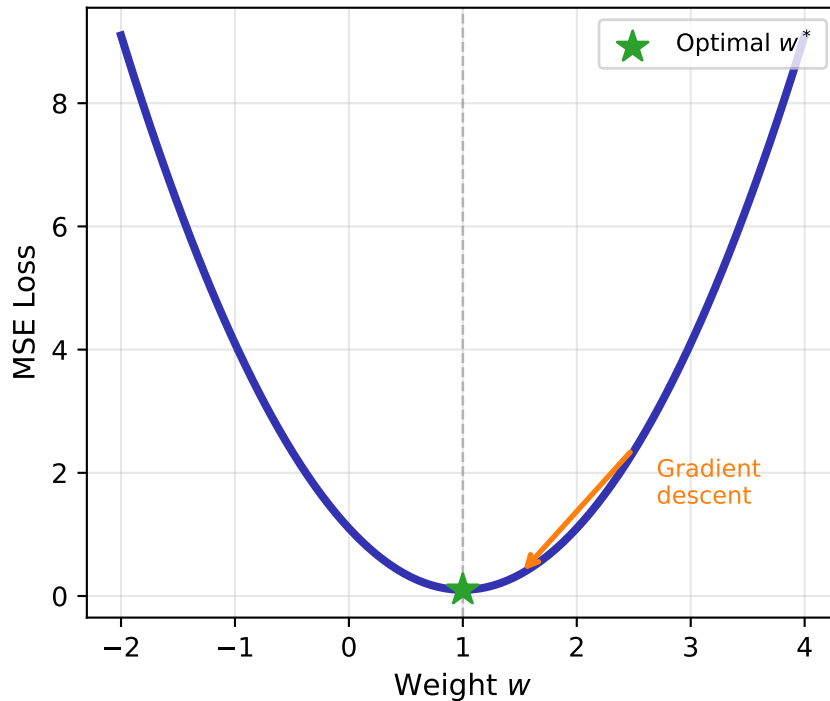


# Mean Squared Error: The Classic Regression Loss

## 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