

### **1. Quantification**

Quantifies difference between predicted and actual values

### **2. Gradient Direction**

Guides optimization process by providing gradient direction

### **6. Convergence & Accuracy**

Affects convergence speed and final model accuracy

## **Loss Function**

Role & Importance

### **3. Task-Specific Design**

Different loss functions needed per task (regression vs classification)

### **5. Objective Function**

Acts as the objective function that the model seeks to minimize

### **4. Performance Impact**

Direct impact on model performance and behavior