Deeplearning.ai IV Machine Learning Projects

Orthogonalization

Single Number Evaluation Metric

Precision

Recall

F1-score

Satisficing and optimizing metrics

Train/dev/test set distribution

Development Set

Hold-out Cross-Validation Set

Size of dev and test sets

Change/adjust dev/test sets and metrics

Human-level performance (Proxy for Bayes Error)

Bayes Optimal Error

Avoidable Bias

Understanding human-level performance

Surpassing human-level performance

Error Analysis

Use dev examples to evaluate ideas

Clean up incorrectly labeled data

Random errors

Systematic errors

Build system quickly, then iterate

Mismatched training and dev/test data

Training and testing on different distribution

Bias and variance with mismatched data distribution

Avoidable bias problem

Variance problem

Data mismatch problem

Degree of overfitting to the development set

Addressing data mismatch

Artificial data synthesis

Manual error analysis

Learning from multiple tasks

Transfer learning

Multi-task learning

End-to-end deep learning