Setting up your ML application

Bias/Variance

deeplearning.ai

Bias and Variance

high bias

Underfitting

"just right"

high variance

Overfitting

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Bias and Variance

y=1   y=0
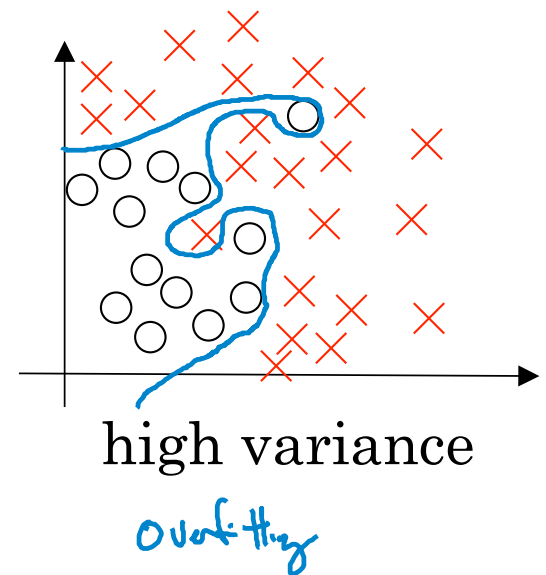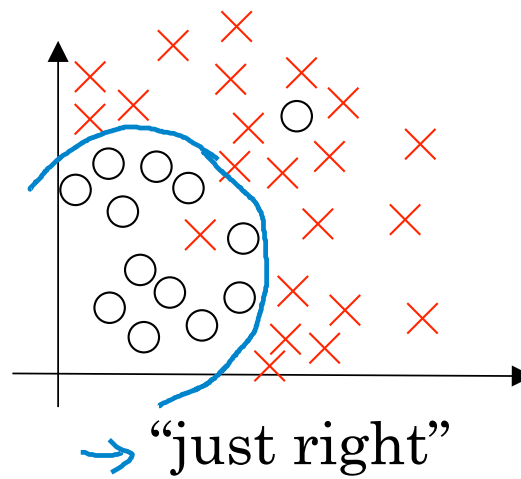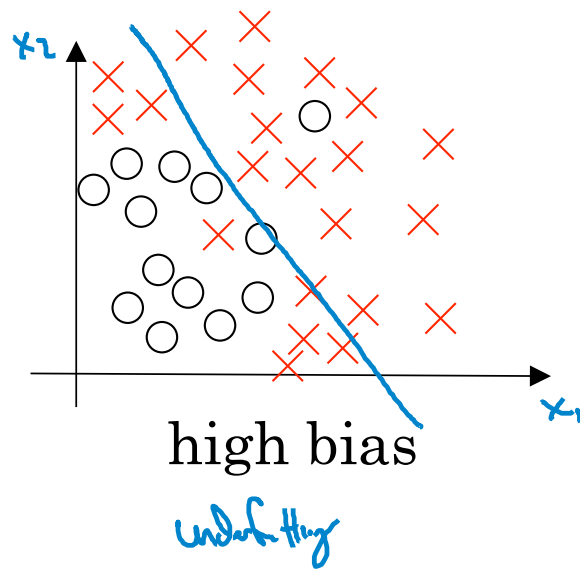
Cat classification
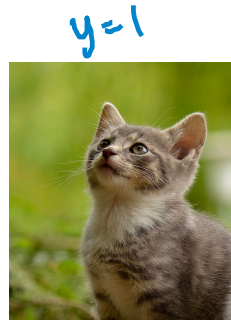
Train set error: 1%   15% ←   15%   0.5%

Dev set error: 11%   16% ←   30%   1%

high variance   high bias   high bias   low bias
                              & high varian   low variance

Human ≈ 0%

Optimal (Bayes) error : ≈ 0% to 15%   Blury images

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High bias and high variance
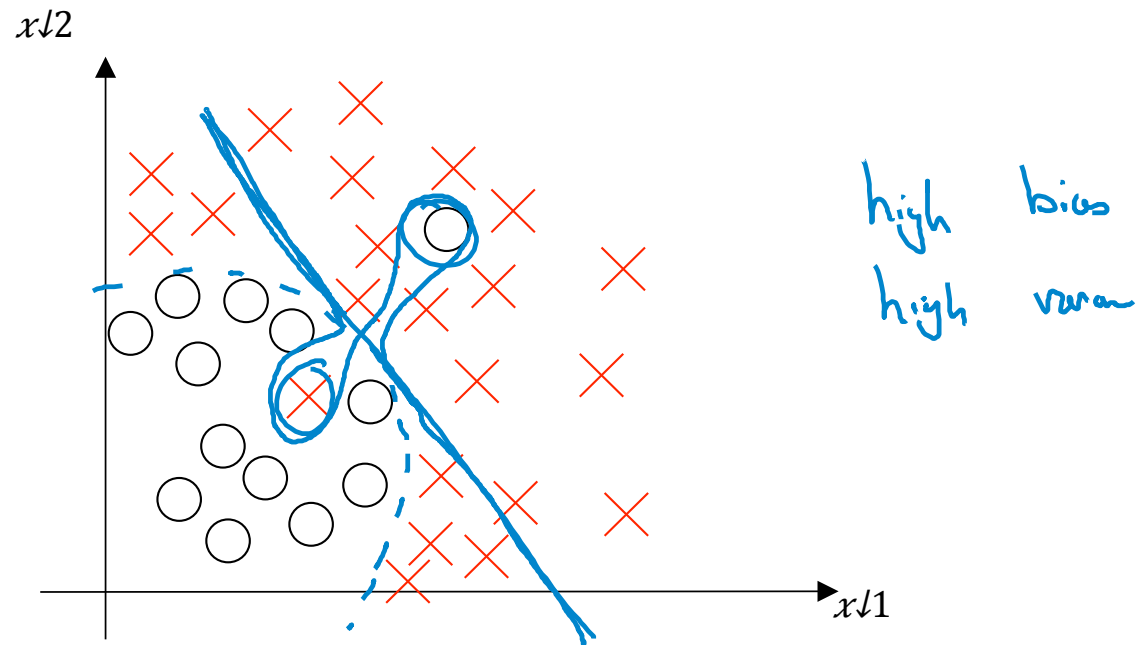
deeplearning.ai

Setting up your
ML application

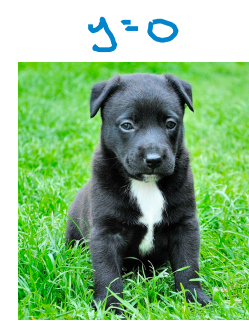Basic "recipe"
for machine learning

Basic "recipe" for machine learning

Andrew Ng

Basic recipe for machine learning

High bias?
(training data performance)

→ Y → Bigger network
→ Train longer.
(NN architecture search)

↓ N

High variance?
(dev set performance)

→ Y → More data
→ Regularization ←
(NN architecture search)

↓ N

Done

Bias Variance tradeoff"