Setting up your
ML application

Bias/Variance

deeplearning.ai

Bias and Variance

high bias

Underfitting

"just right"

high variance

Overfitting

Andrew Ng
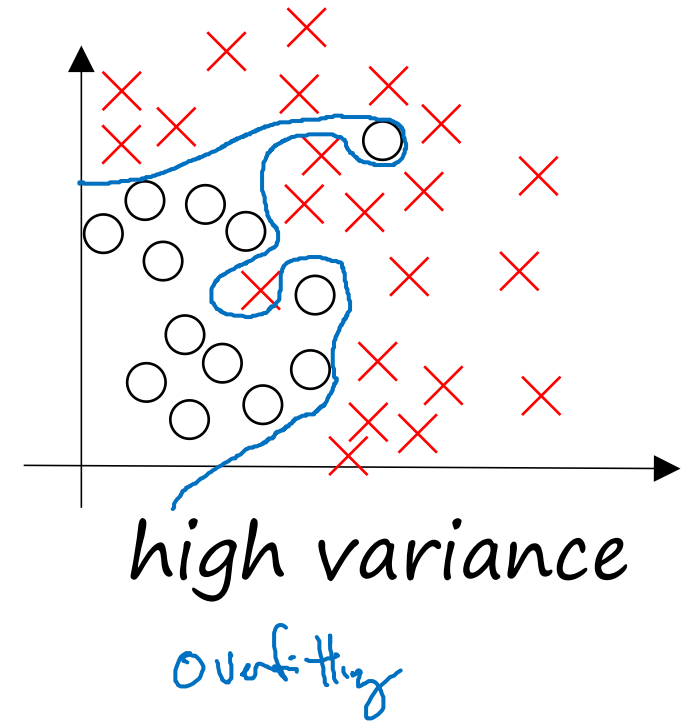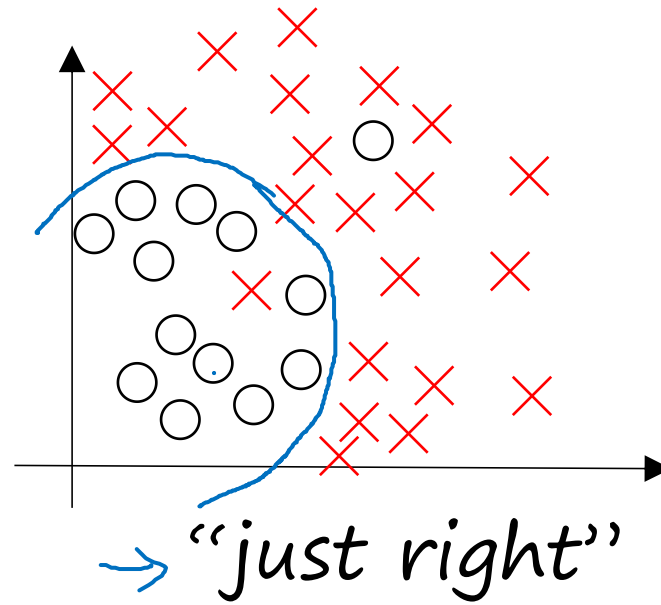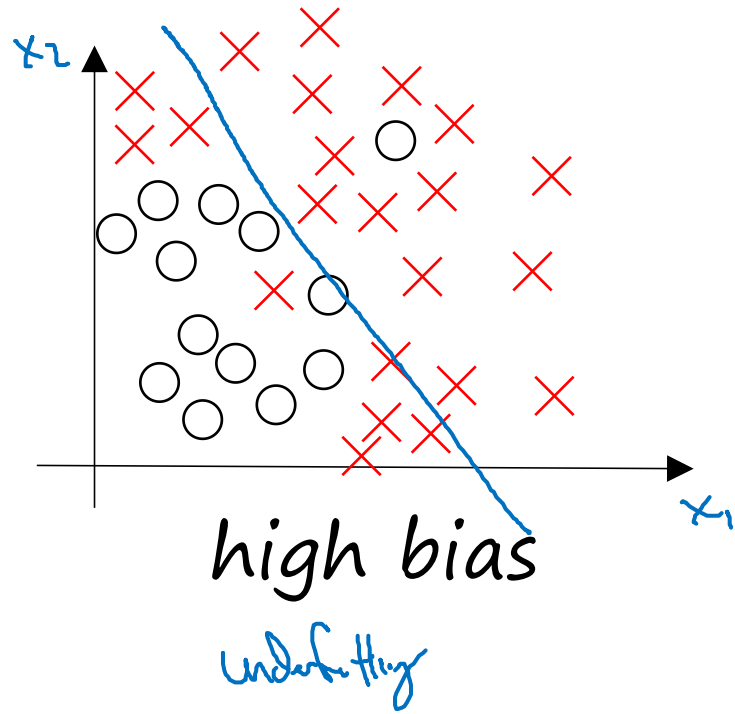
Bias and Variance

Cat classification

y=1   y=0
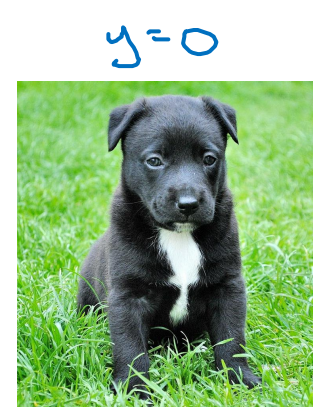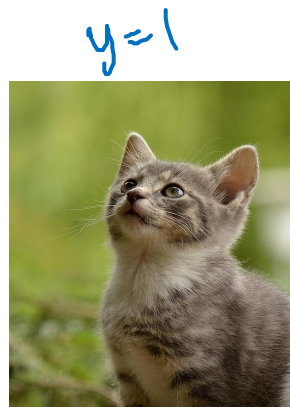
Train set error: 1% | 15% ⬅ | 15% | 0.5%

Dev set error: 11% | 16% ⬅ | 30% | 1%

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

Human ≈ 0%

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

Andrew Ng

High bias and high variance

high bias
high varian

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Setting up your
ML application

Basic "recipe"
for machine learning

deeplearning.ai

Basic "recipe" for machine learning

Basic recipe for machine learning

High bias?
(training data performance)

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

↓ N

High variance?
(dev set performance)

→ More data
→ Regularization
(NN architecture search)

↓ N

Done

Bias Variance tradeoff"

Andrew Ng