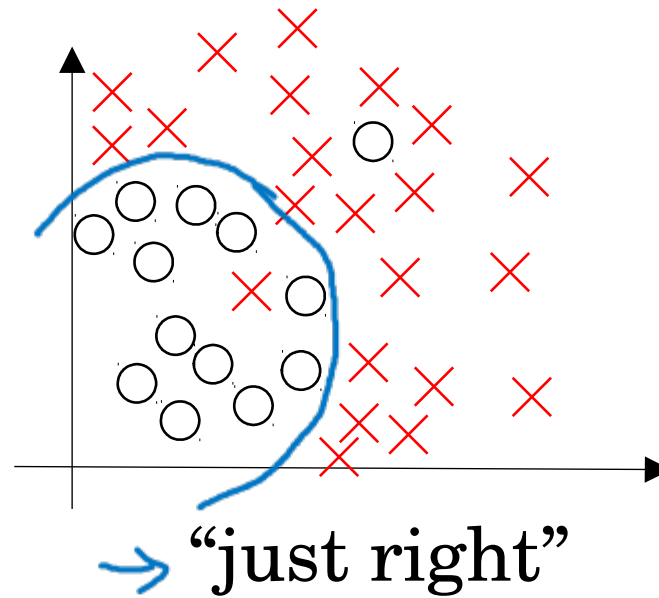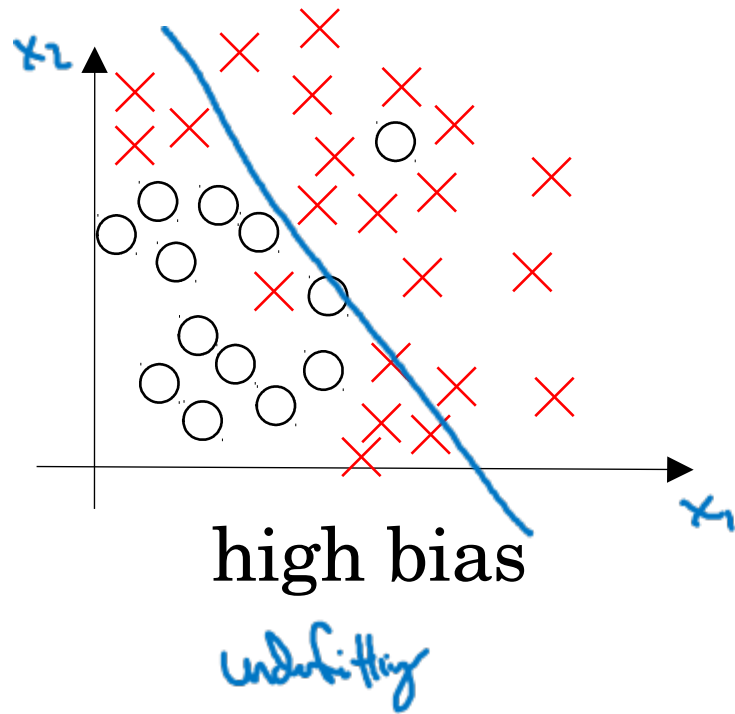# Setting up your ML application

Bias/Variance

Bias and Variance

high bias

"just right"

high variance

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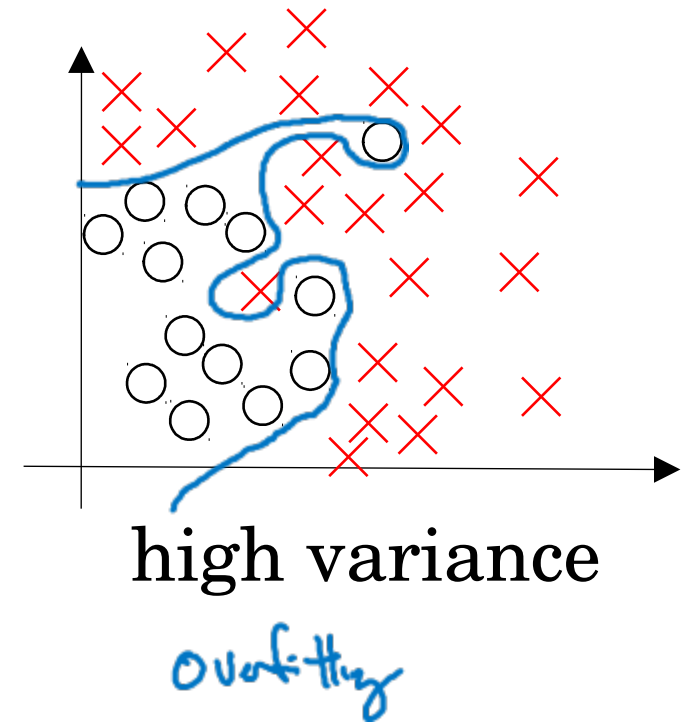
Bias and Variance

Cat classification

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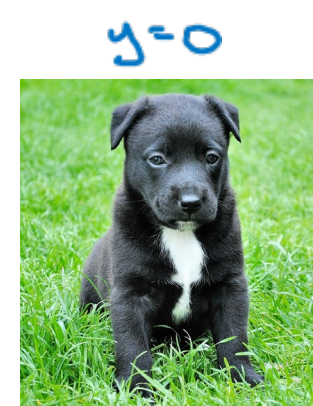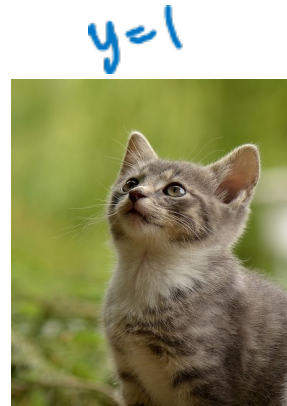
Train set error: 1% | 15% ← | 15% | 0.5%

Dev set error: 11% | 16% ← | 30% | 1%

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

Human: ≈ 0%

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

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High bias and high variance

high bias
high varian

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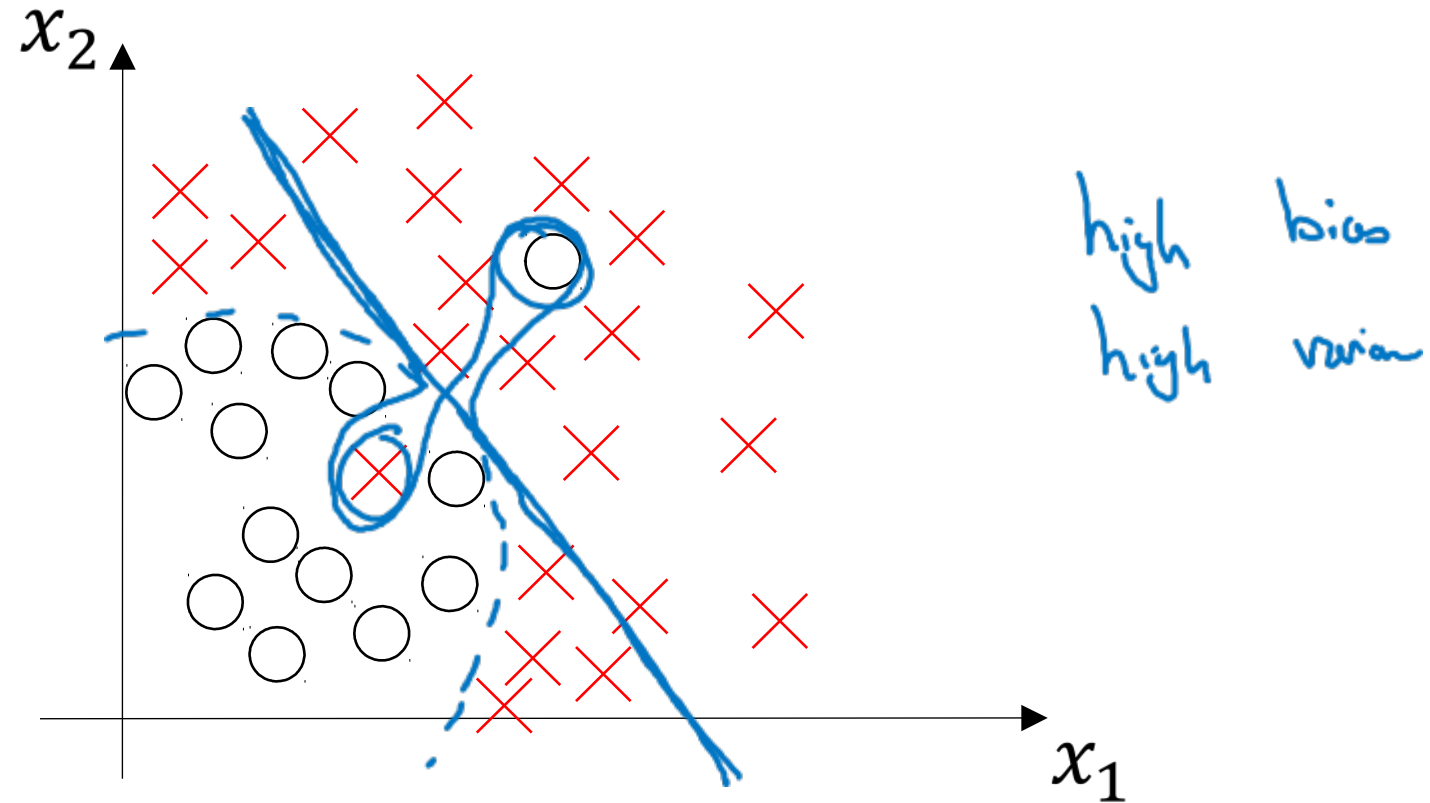
Setting up your ML application

Basic "recipe" for machine learning

Basic "recipe" for machine learning

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Basic recipe for machine learning

High bias?
(training data performance)

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

↓ N

High variance?
(dev set performance)

→ → More data
→ Regularization
(NN architecture search)

↓ N

Done

"Bias ← → Variance tradeoff"

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