

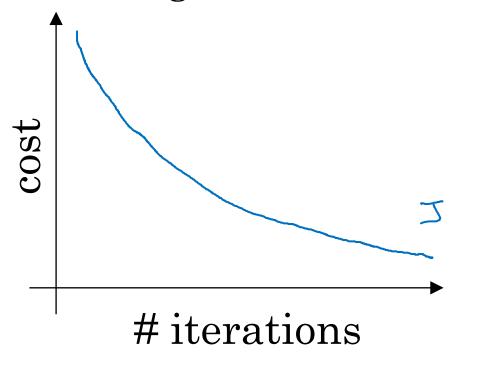
#### deeplearning.ai

# Optimization Algorithms

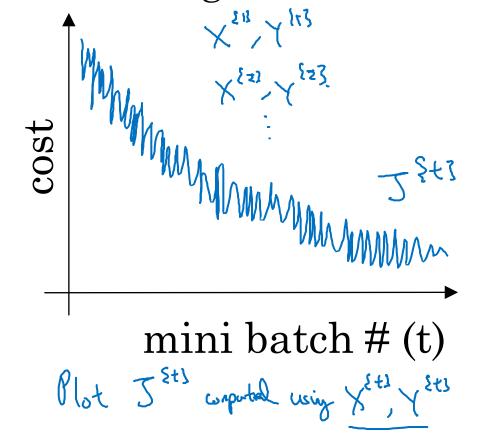
Understanding mini-batch gradient descent

## Training with mini batch gradient descent

Batch gradient descent

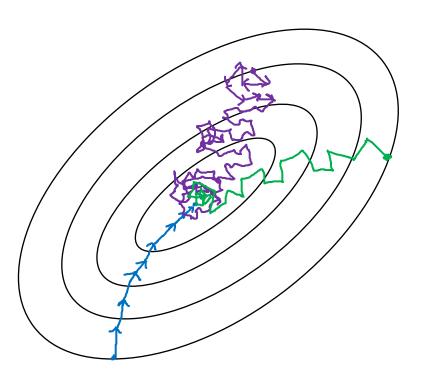


Mini-batch gradient descent



## Choosing your mini-batch size

> If mini-both Size = m : Borth godul desert. (X Els) = (X, Y) = (



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In-bothern

(min-hoth size

not too by/small)

Furleyt learnly.

Vectorantian.

(N 1 0000)

(N) 000) pe • Make propo without processing extinct tray set.

Bostch

grodient desent

(min; horth size = m)

Turo long.

Too long per iteration

#### Choosing your mini-batch size

If small tray set: Use both graher descent.
(m < 2000) Typical minz-borth sizes! -> 64 , 128, 256, 512  $2^{2}$   $2^{8}$   $2^{3}$ Make sure ministrate fit in CPU/GPU memory. X Ex Y Ex 3