

[■■■: 00:00:00.000



Regularizing your
neural network

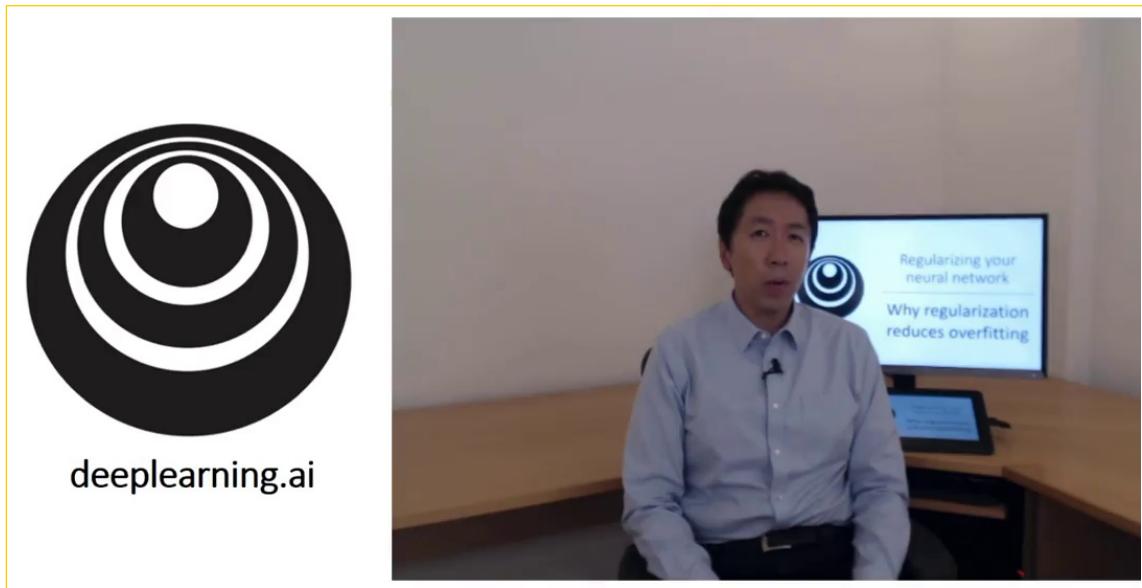
Why regularization
reduces overfitting

↳

[■ 1 ■ / ■ 26 ■

[■■: keyframe_00-00-00-000_0000.jpg

[■■■: 00:00:03.000]



[■ 2 ■ / ■ 26 ■]

[■■: keyframe_00-00-03-000_0001.jpg]

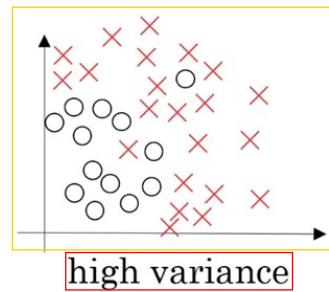
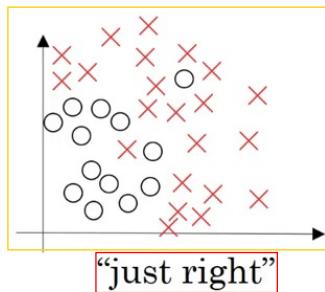
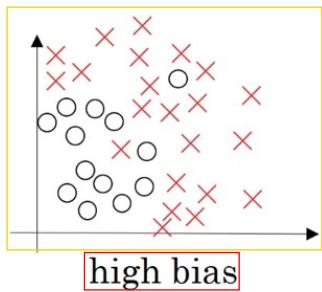
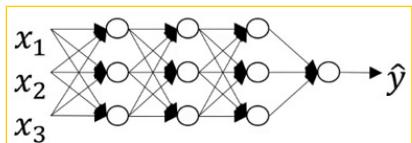


Regularizing your
neural network

Why regularization
reduces overfitting

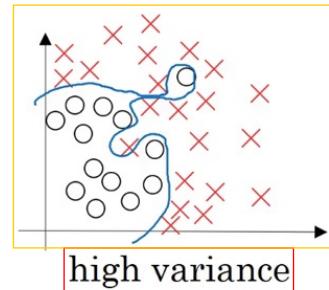
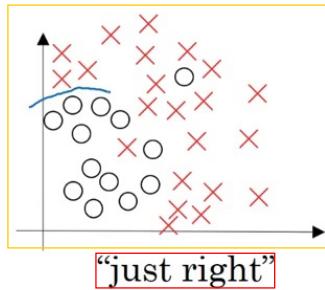
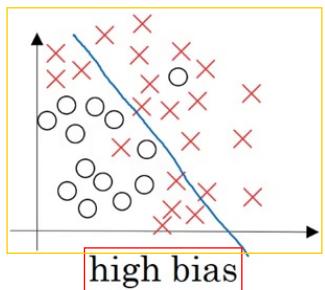
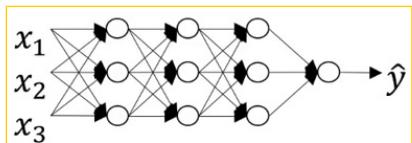
↳

How does regularization prevent overfitting?



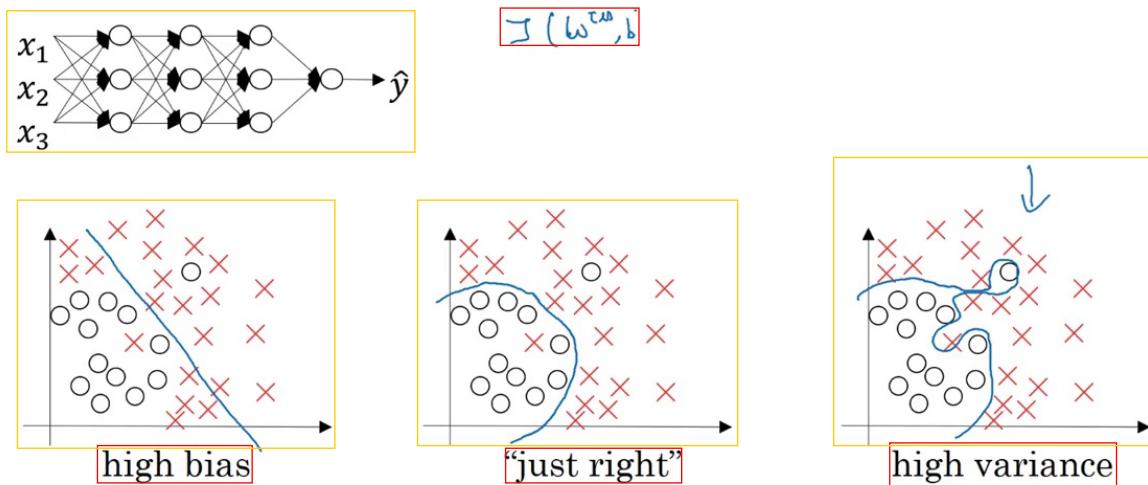
Andrew Ng

How does regularization prevent overfitting?



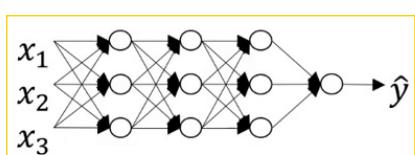
Andrew Ng

How does regularization prevent overfitting?

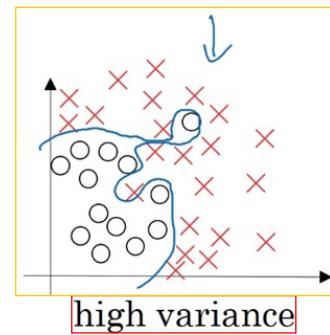
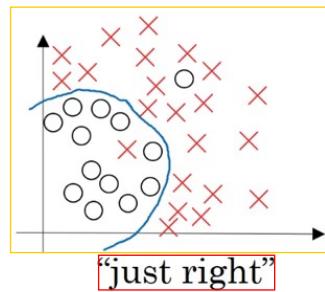
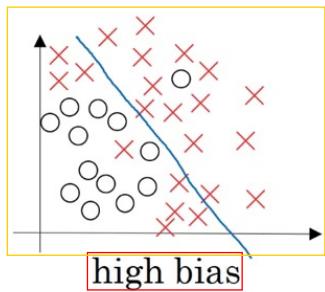


Andrew Ng

How does regularization prevent overfitting?

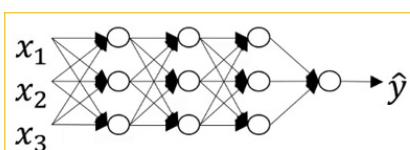


$$J(\omega^{(1)}, b^{(1)}) = \frac{1}{m} \sum_{i=1}^m L(y^{(i)}, \hat{y}^{(i)}) + \frac{\lambda}{2m} \sum_{l=1}^L \|\omega^{(l)}\|^2$$



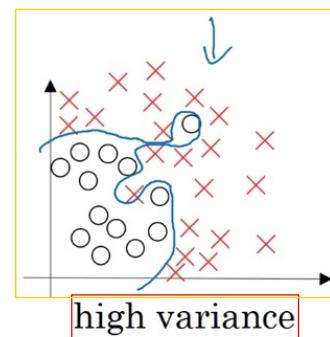
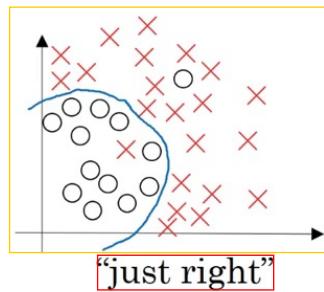
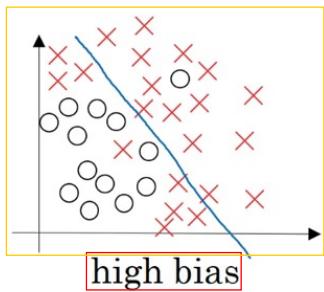
Andrew Ng

How does regularization prevent overfitting?



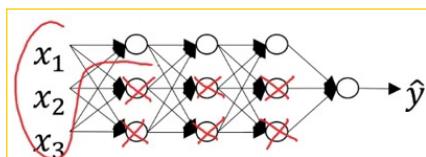
$$J(\omega^{(0)}, b^{(0)}) = \frac{1}{m} \sum_{i=1}^m L(y^{(i)}, \hat{y}^{(i)}) + \frac{\lambda}{2m} \sum_{l=1}^L \|\omega^{(l)}\|_F^2$$

ω



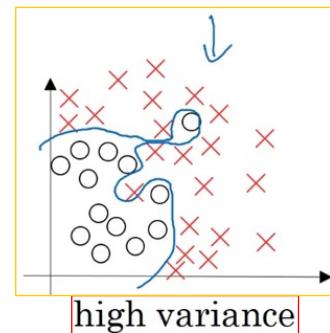
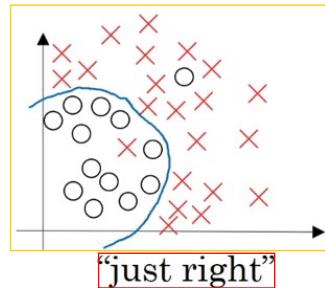
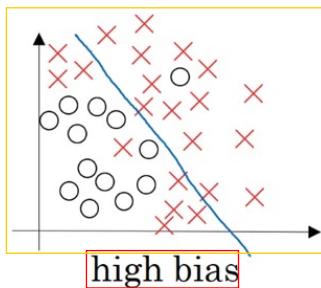
Andrew Ng

How does regularization prevent overfitting?



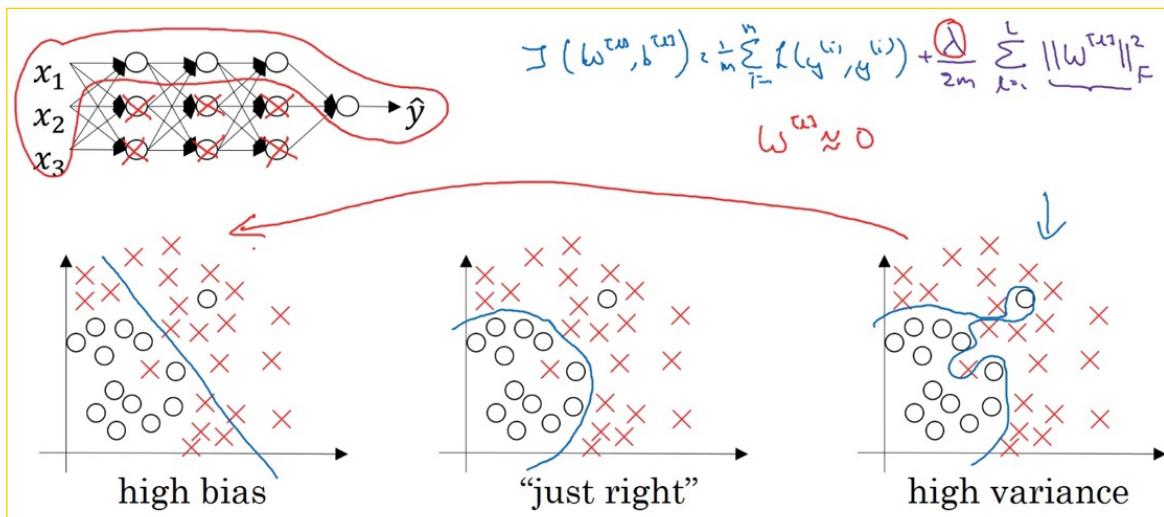
$$J(\omega^{(0)}, b^{(0)}) = \frac{1}{m} \sum_{i=1}^m L(y_i^{(0)}, \hat{y}_i^{(0)}) + \frac{\lambda}{2m} \sum_{l=1}^L \|\omega^{(l)}\|_F^2$$

$\omega^{(0)} \approx 0$



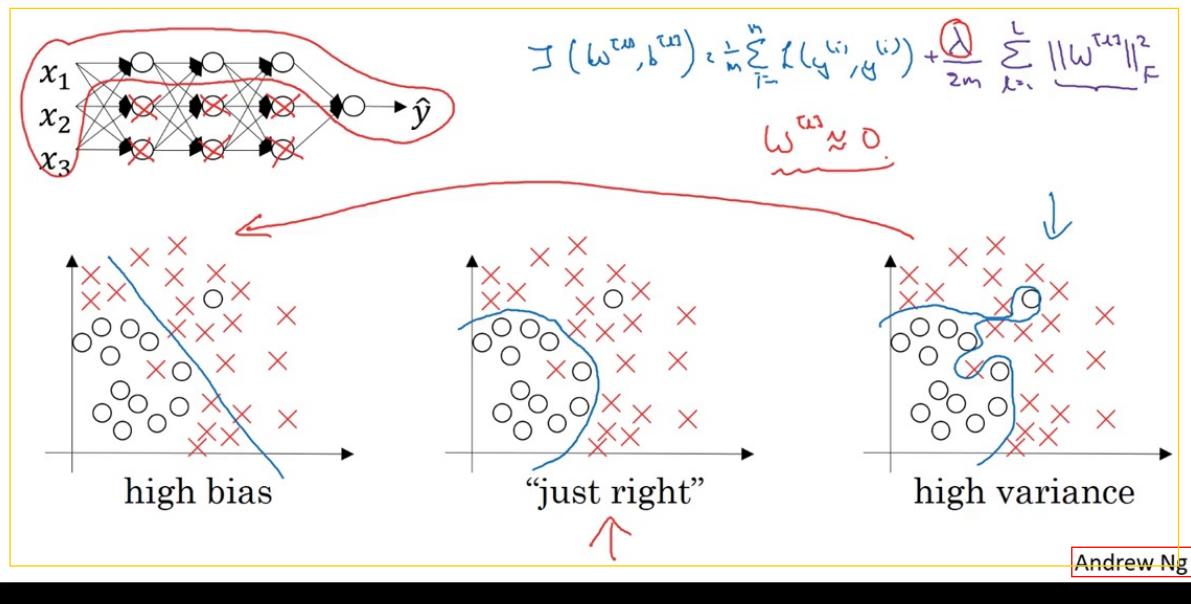
Andrew Ng

How does regularization prevent overfitting?

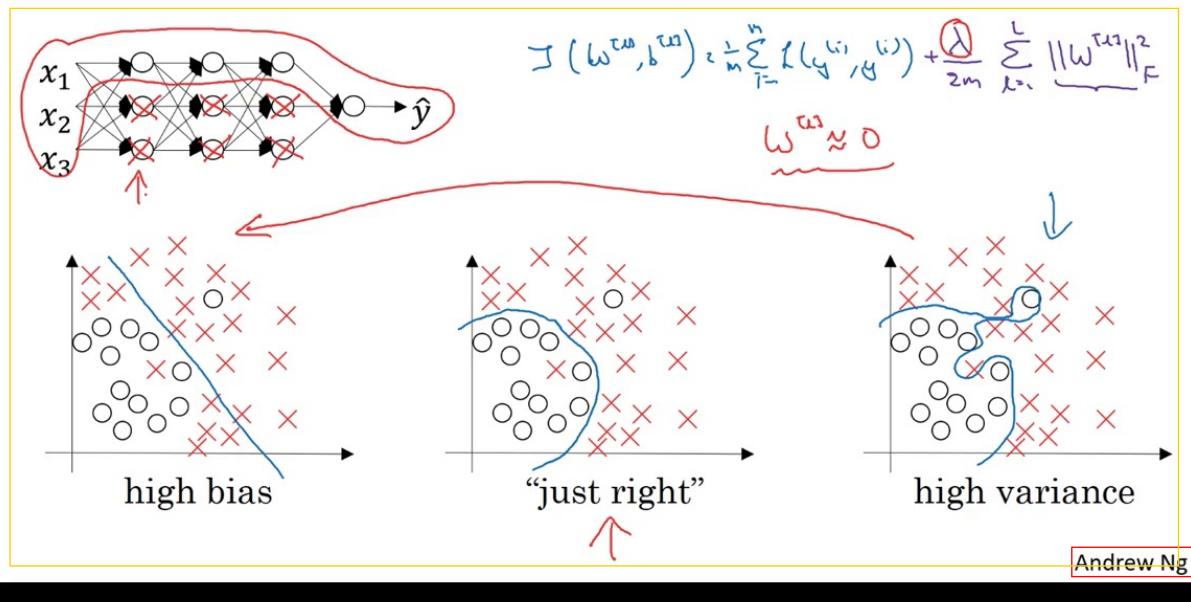


Andrew Ng

How does regularization prevent overfitting?

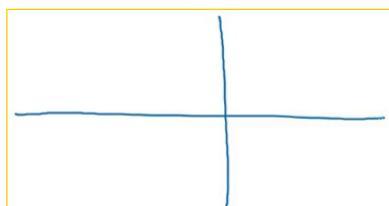


How does regularization prevent overfitting?



■■■: 00:03:00.000

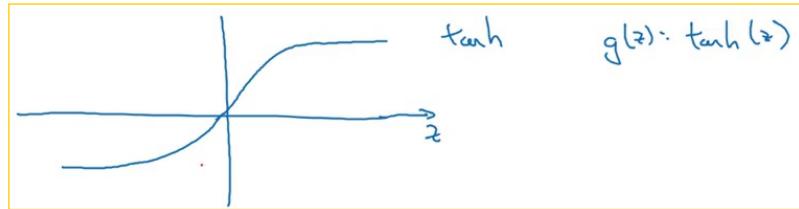
How does regularization prevent overfitting?



Andrew Ng

■■■: 00:03:20.000

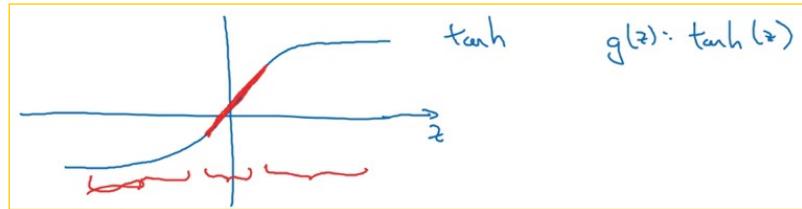
How does regularization prevent overfitting?



Andrew Ng

■■■: 00:03:40.000

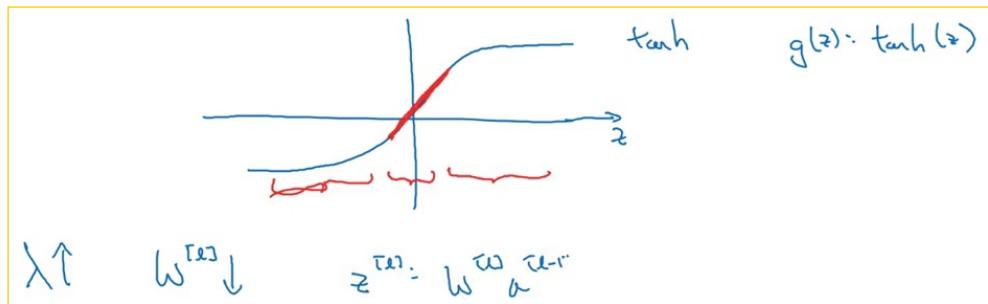
How does regularization prevent overfitting?



Andrew Ng

■■■: 00:04:00.000

How does regularization prevent overfitting?

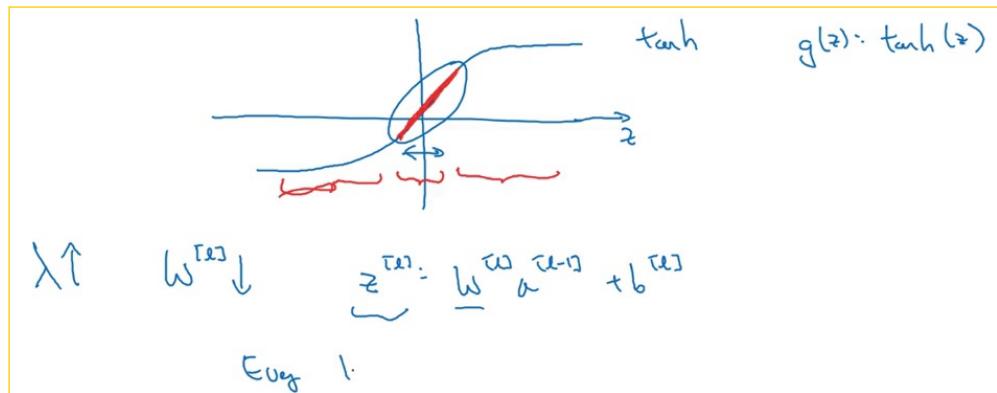


Andrew Ng

■ 16 ■ / ■ 26 ■

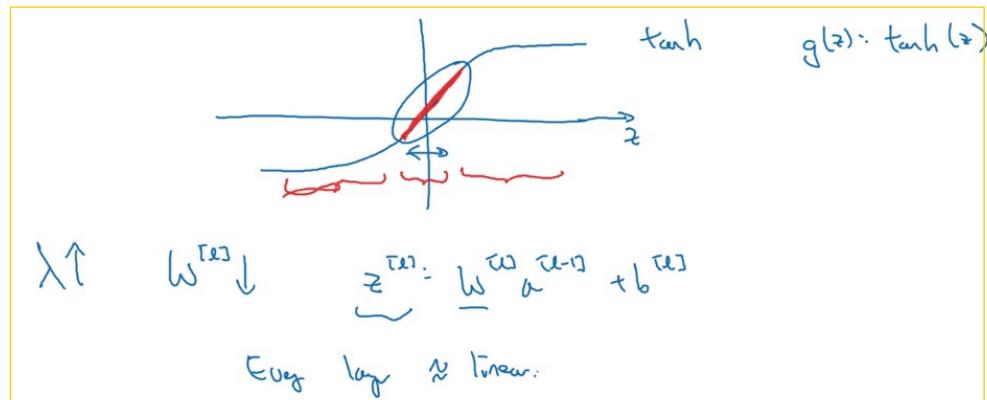
■■: keyframe_00-04-00-000_0015.jpg

How does regularization prevent overfitting?



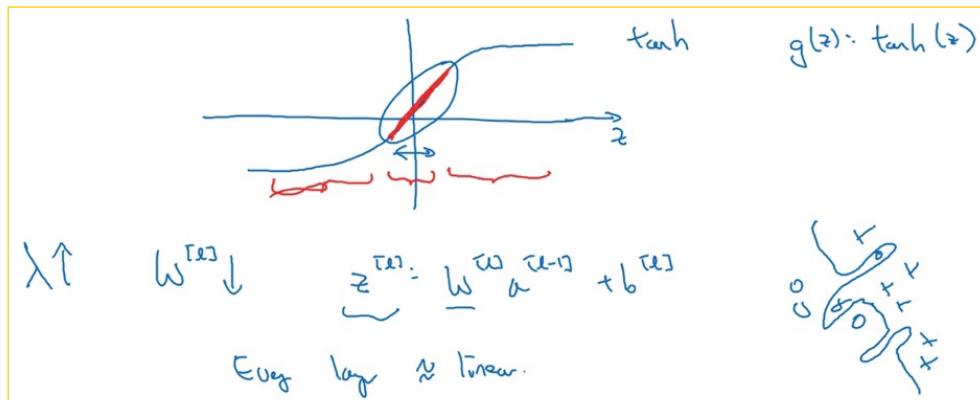
Andrew Ng

How does regularization prevent overfitting?



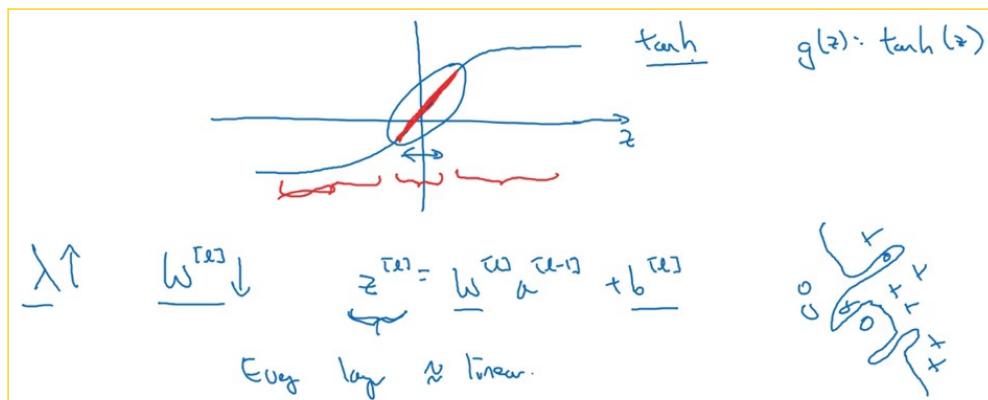
Andrew Ng

How does regularization prevent overfitting?



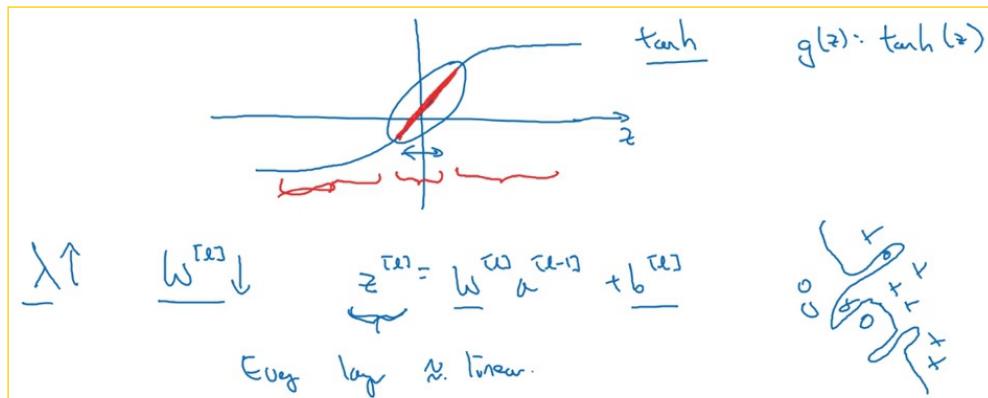
Andrew Ng

How does regularization prevent overfitting?



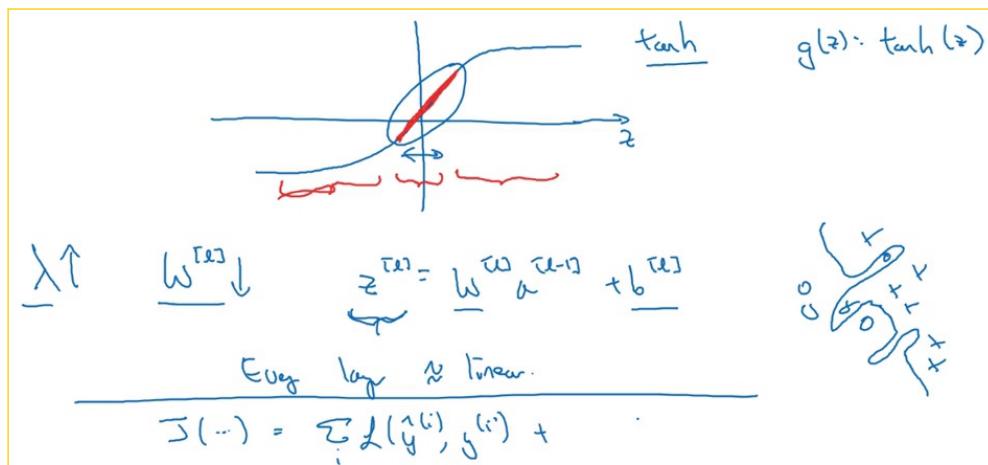
Andrew Ng

How does regularization prevent overfitting?



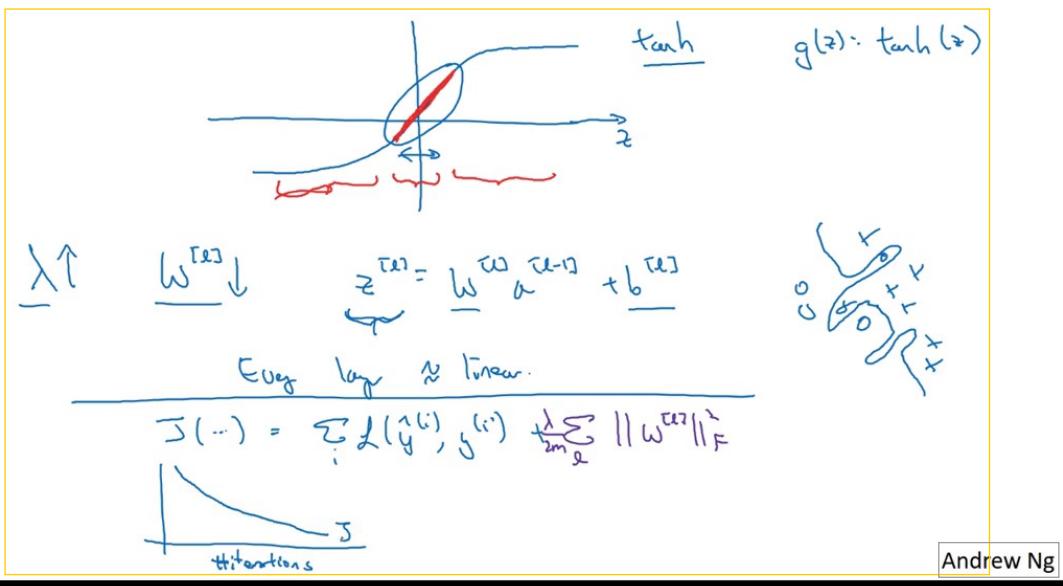
Andrew Ng

How does regularization prevent overfitting?

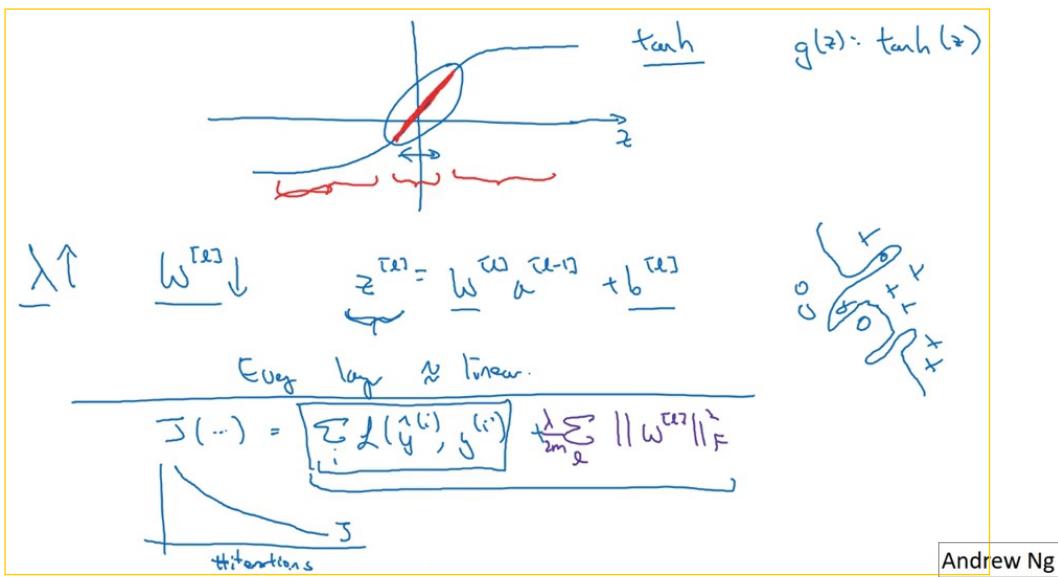


Andrew Ng

How does regularization prevent overfitting?

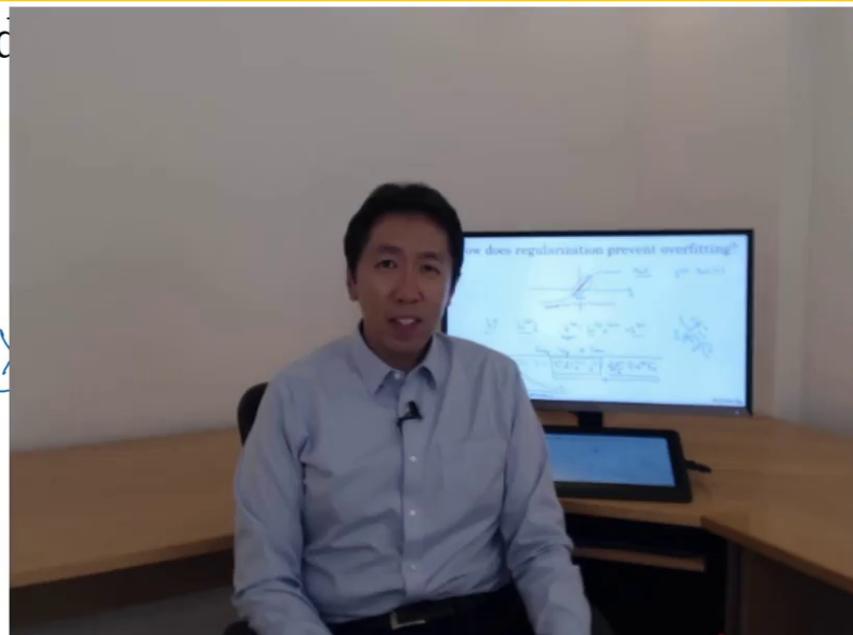


How does regularization prevent overfitting?



[■■■: 00:06:54.000

How does regularization prevent overfitting?



Andrew Ng

[■■■: 00:07:00.000]

How does regularization prevent overfitting?



[■ 26 ■ / ■ 26 ■]

[■■: keyframe_00-07-00-000_0025.jpg]