Hands on
Convolutional Neural Networks
+
Prediction Interpretability

Wifi password - welovecode

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Talk Time

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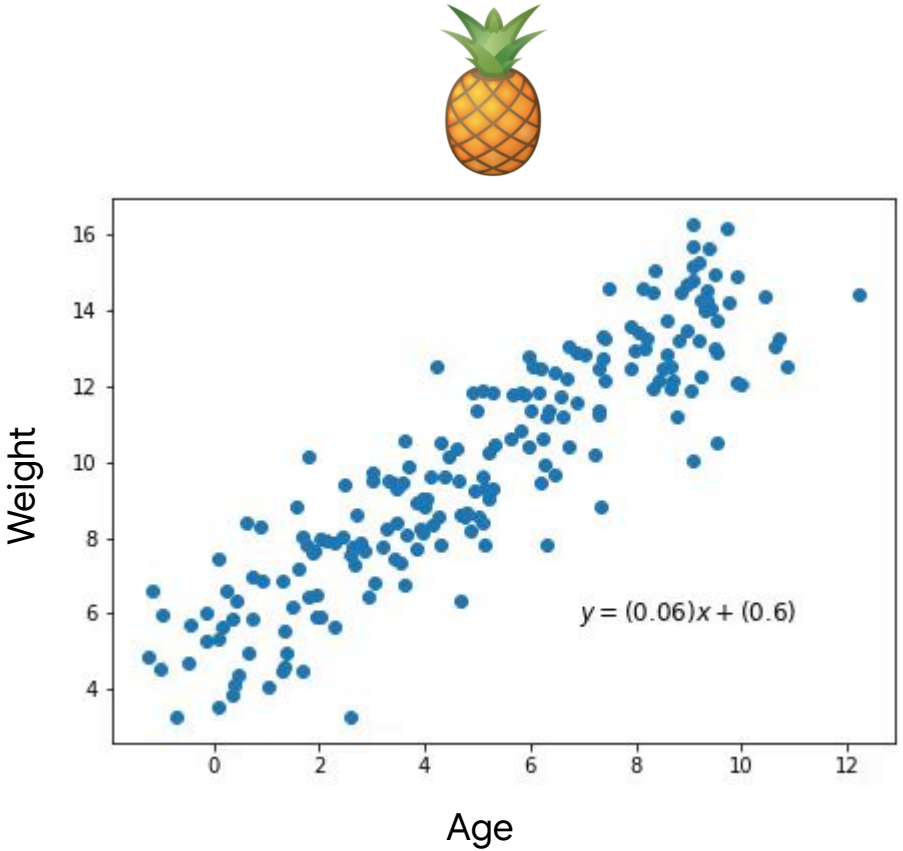

Linear Regression
(the line of best fit)

$$y = mx + c$$

Weight = (0.82)Age + 5.8

bit.ly/**zack-akil-line**

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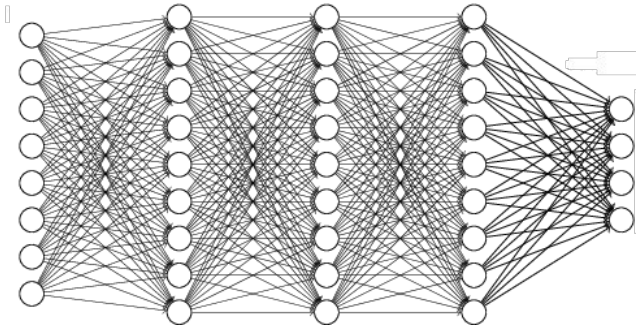
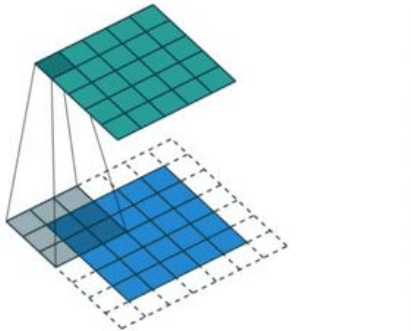
To CNN or to just NN?



Normal NNs look at independent pixel values, (not acknowledging any spatial information)



CNNs use a sliding window technique to analysis pixels in relation to each other

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How a Neural Network sees an image

Pixels shown with no relation to each other

Van Gogh - The Starry Night

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How a Convolutional Neural Network sees an image

Van Gogh - Sunflowers

The model **is** seeing how pixels are positioned relative to each other

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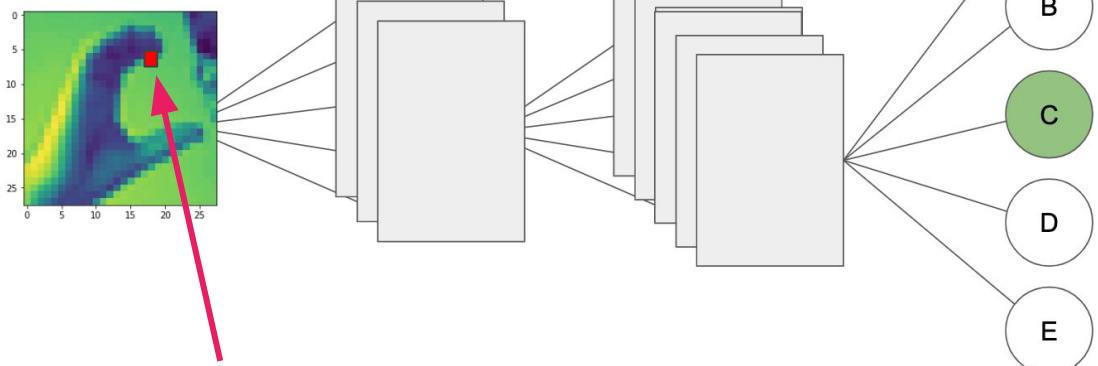
How does model interpretability work

(why are you making that prediction?)



	Desired Output	Actual Output	New Output	
A	0	0.02	0.03	+0.01
B	0	0.34	0.35	+0.01
C	1	0.92	0.90	-0.02
D	0	0.13	0.14	+0.01
E	0	0.11	0.13	+0.02

Let's change this pixel a little

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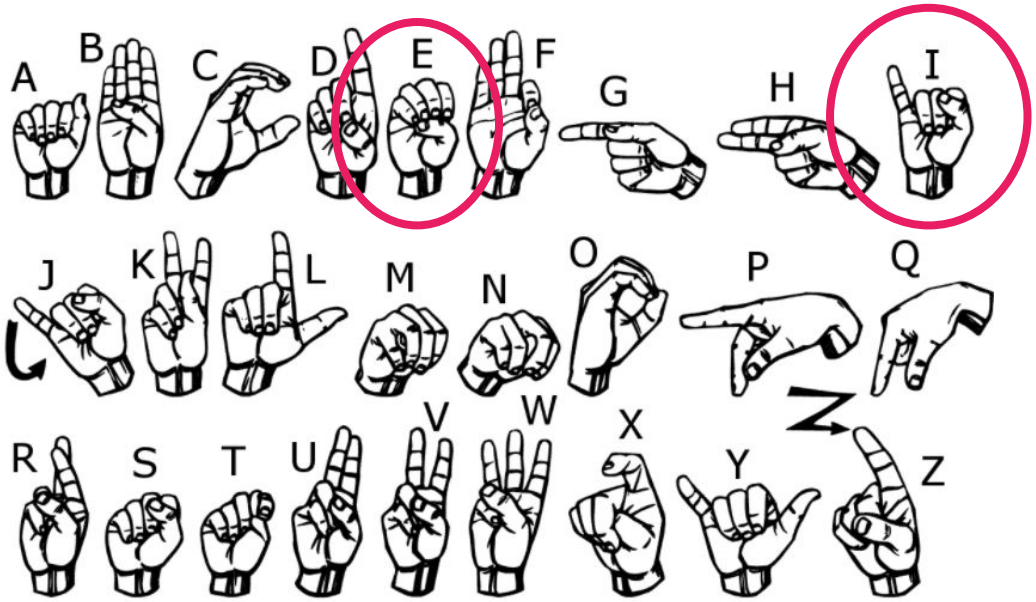
I



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Why

Check for Bias

Explain predictions

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Enough Talk!

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#dataLondon @DataLondon

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bit.ly/zack-cnn-github

bit.ly/zack-cnn-colab

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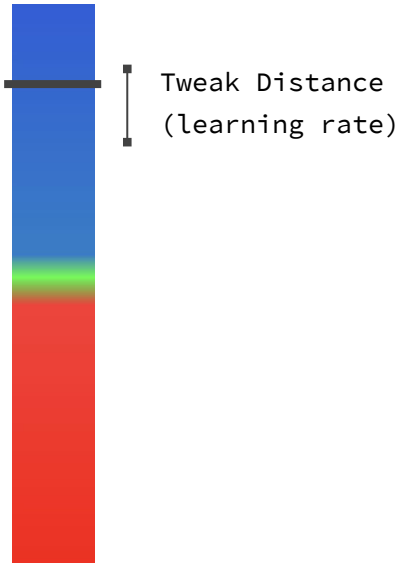
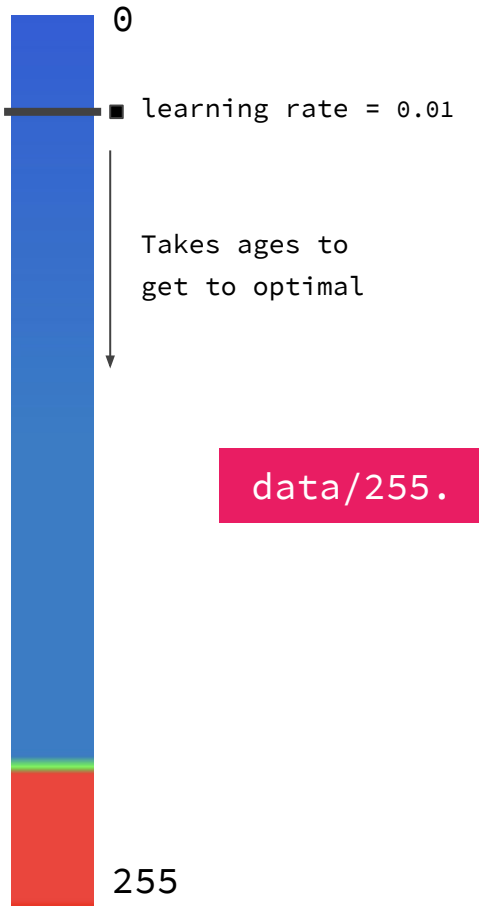
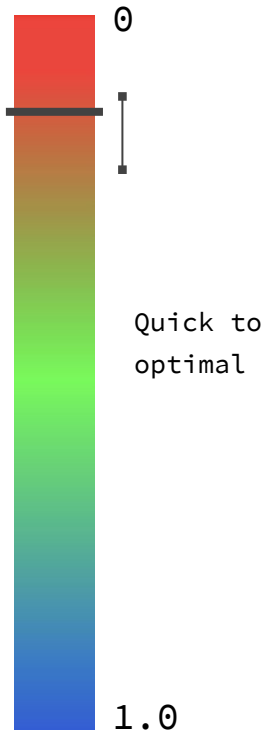
Keeping data in my range

The hotel shower tap





data/255.



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