US National Hot Dog Month

Presented by Group 3:
Deep Learning Dogs

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Problem Statement

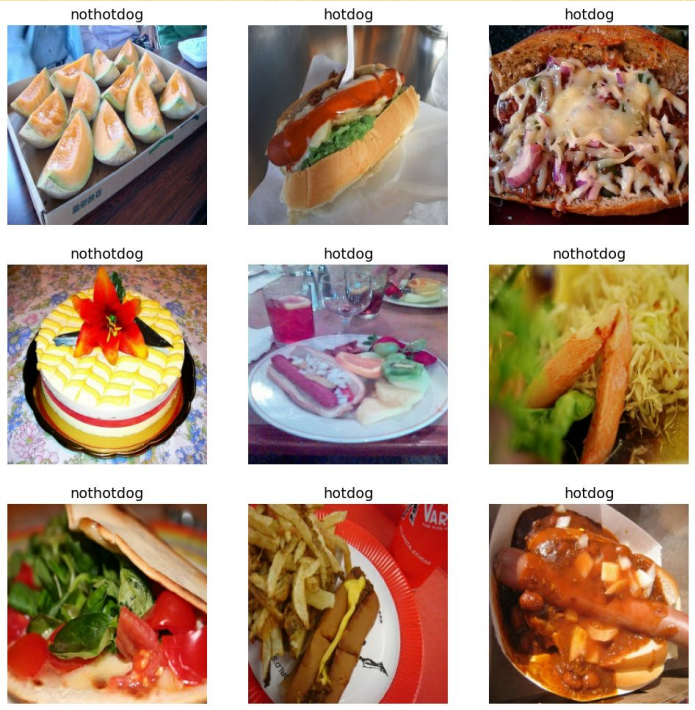
July is **National Hot Dog Month**! In preparation, we have been hired by Nathan's Famous to design an app that customers can use to add some flair to their BBQ. This app is intended to take any given photo and determine if the photo is of a hot dog or not. Fun for all ages and guaranteed entertainment!

Hot Dog


©Hannah Kaminsky http://www.bittersweetblog.wordpress.com


http://blog.sina.com.cn/junsmore

Not Hot Dog



Pre-Processing!

Load data using a Keras utility

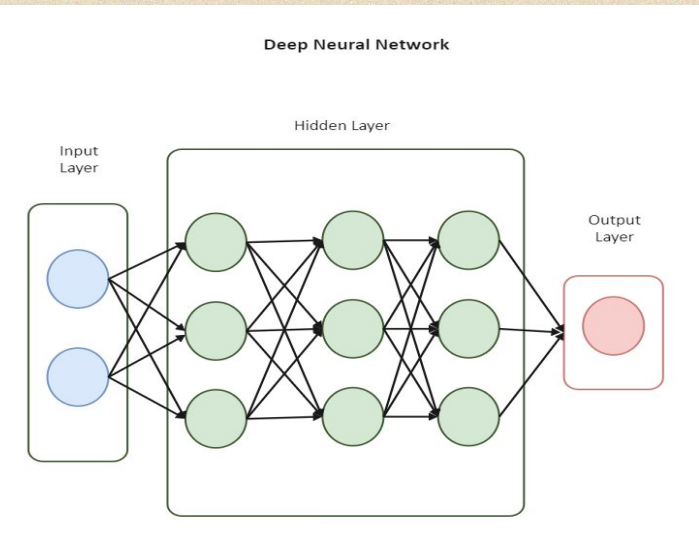
Use 80% of the images for training and 20% for validation

Visualize the data

Standardize RGB data

Configure the dataset for performance

Neural Net Model



Create 2D convolution layers (Relu activation), w/ max pooling operation

Flatten into a single dimension

Output layer Sigmoid for classification

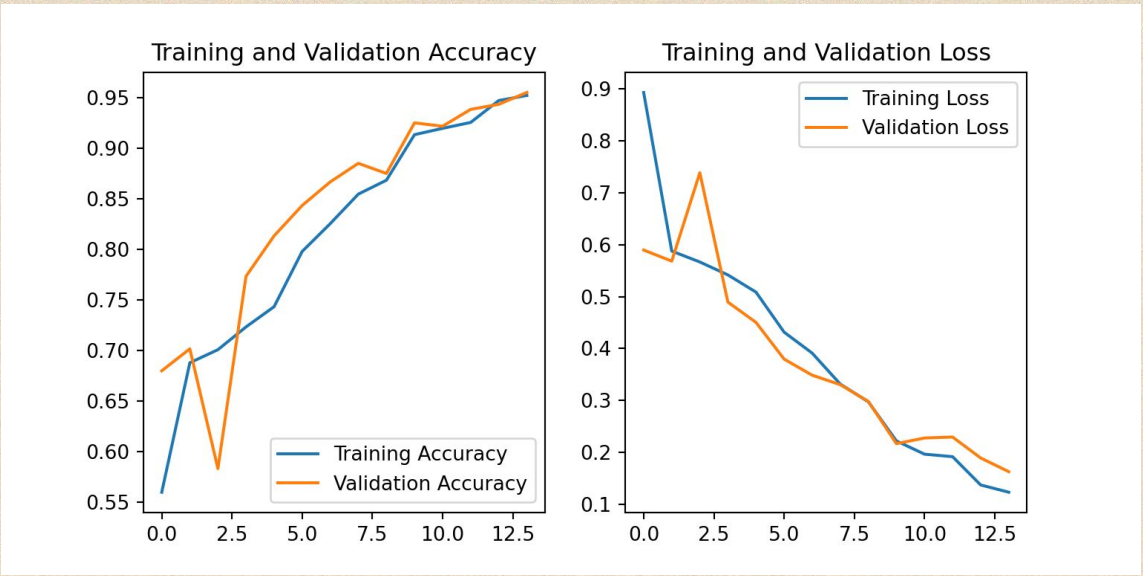
Compile model with Adam optimizer

Fit model with 20 epochs

Winning Model

Baseline Accuracy	Model Accuracy
0.50	0.95

Winning Model

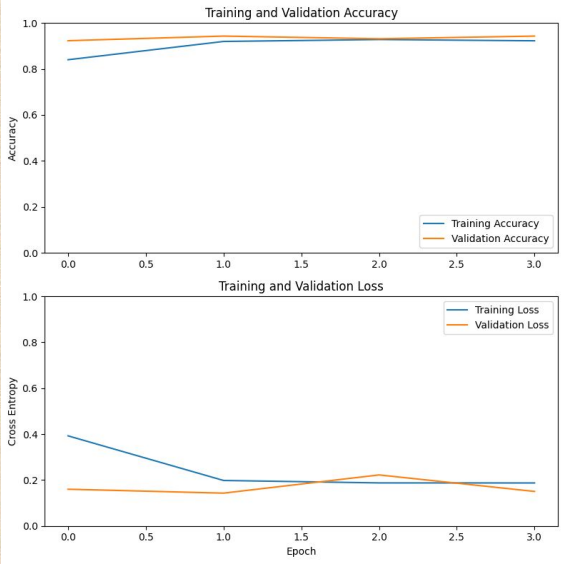


Other Model Options

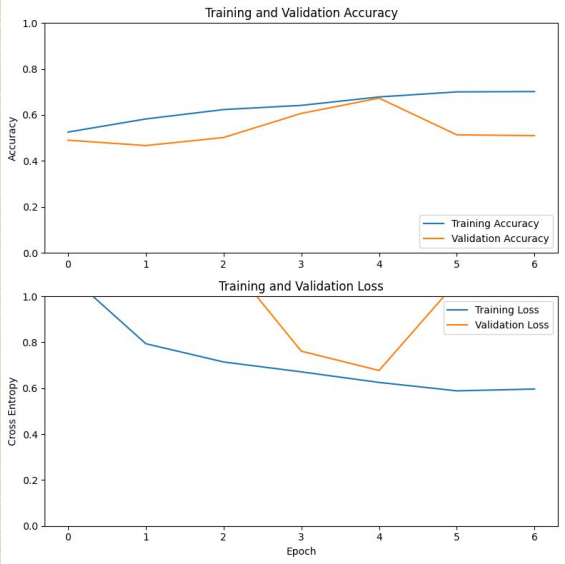
Deep Learning frameworks: Tensorflow and Keras

1. ResNet50→Val:0.9433, Test: 0.9477
2. AlexNet → Val:0.5100, Test: 0.6531
3. VGG-19 → Val: 0.9183, Test: 0.9225

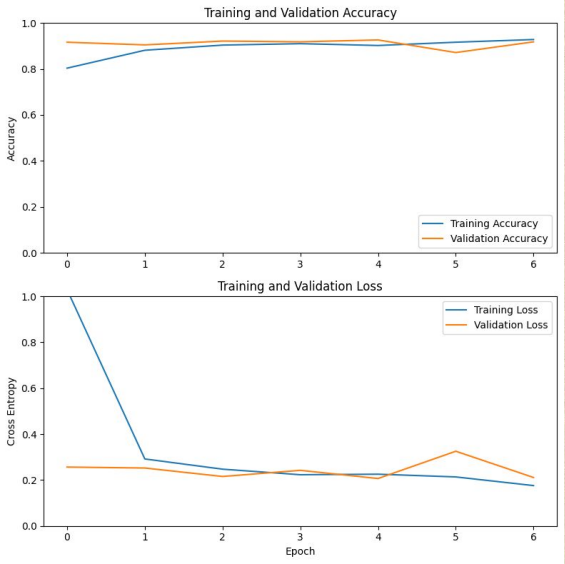
ResNet-50



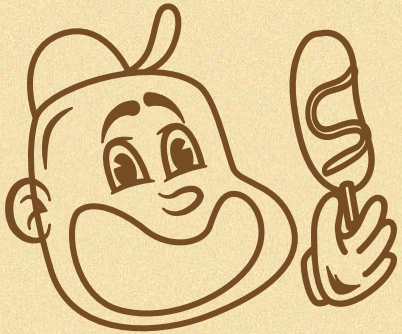
AlexNet

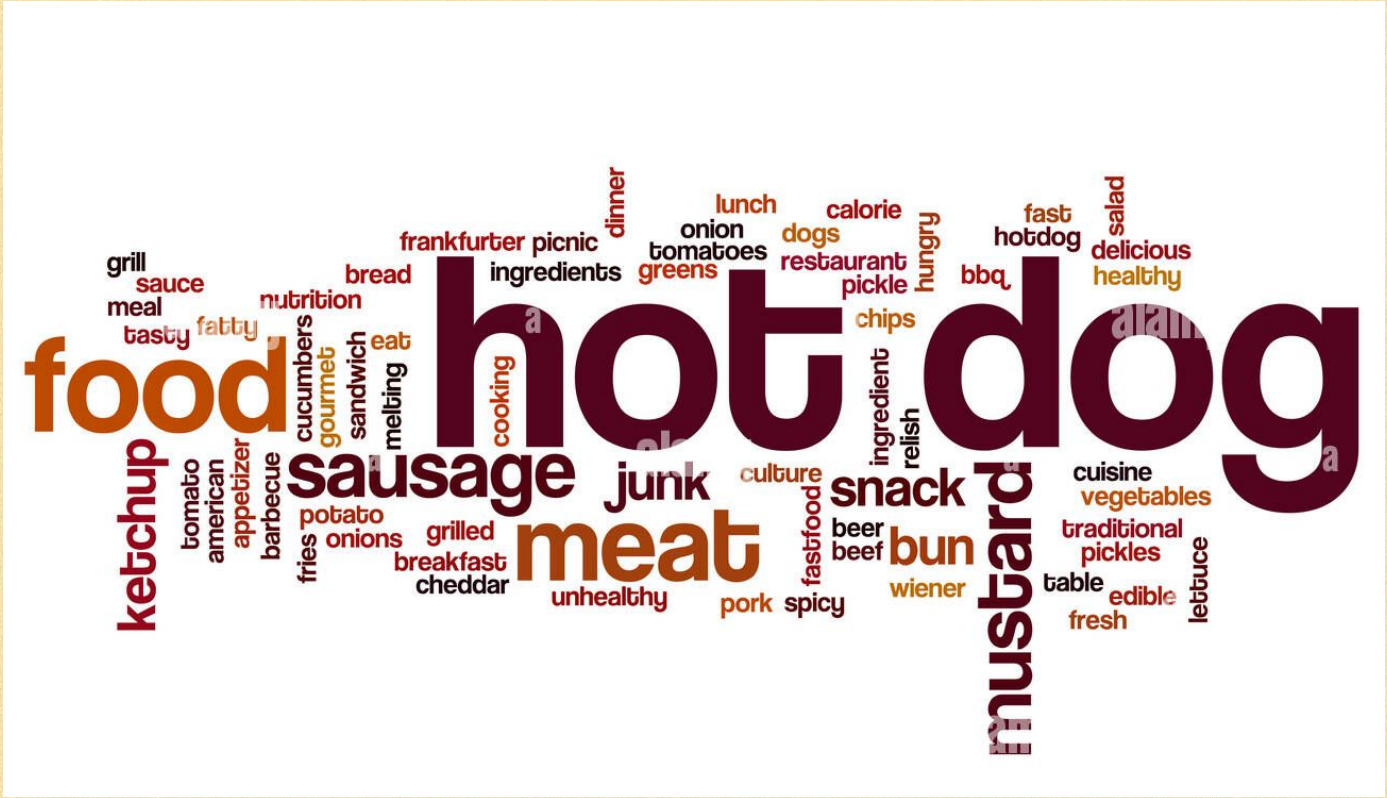


VGG-19



Streamlit App Debut




hot dog
food
sausage
meat
mustard
ketchup
junk
snack
bun
grill
sauce
meal
tasty
fatty
nutrition
bread
frankfurter
picnic
ingredients
dinner
lunch
onion
tomatoes
greens
calorie
dogs
restaurant
pickle
hungry
fast
hotdog
bbq
salad
delicious
healthy
chips
ingredient
relish
cucumbers
gourmet
sandwich
eat
melting
cooking
tomato
american
appetizer
barbecue
potato
fries
onions
grilled
breakfast
cheddar
unhealthy
culture
fastfood
beer
beef
pork
spicy
wiener
cuisine
vegetables
traditional
pickles
table
edible
fresh
lettuce

Thank You!!

Any Questions?