

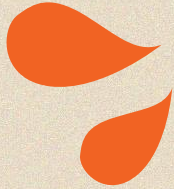
US National Hot Dog Month

Presented by Group 3:
Deep Learning Dogs

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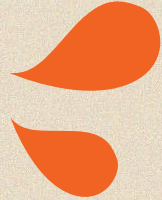


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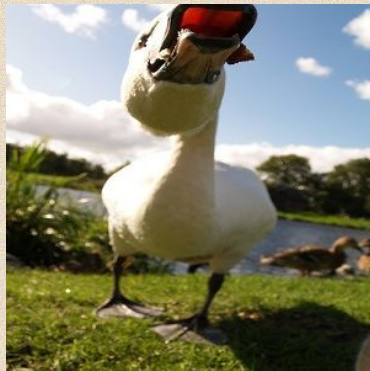
Problem Statement

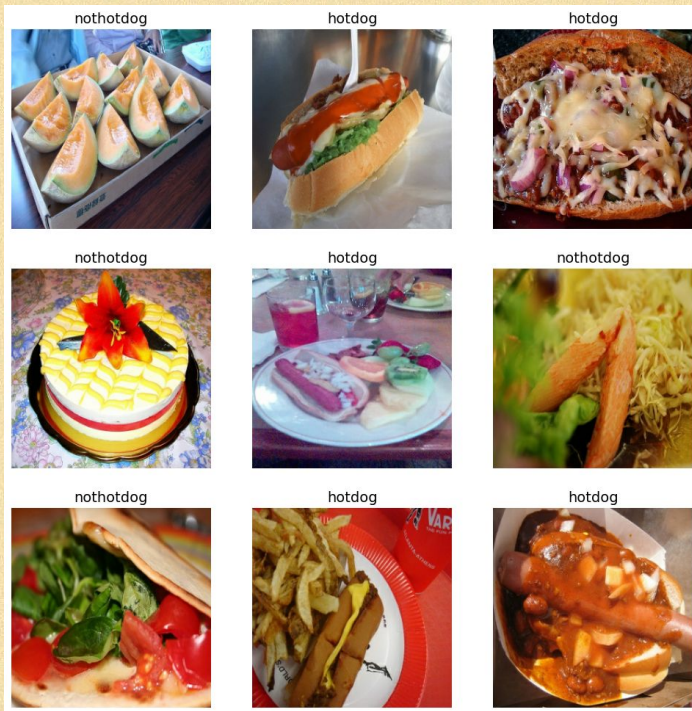
July is **National Hot Dog Month**! In preparation, we have been hired by Nathan's Famous to design an app that customers can use to add some flair to their BBQ. This app is intended to take any given photo and determine if the photo is of a hot dog or not. Fun for all ages and guaranteed entertainment!

Hot Dog



Not Hot Dog





Pre-Processing!

Load data using a Keras utility

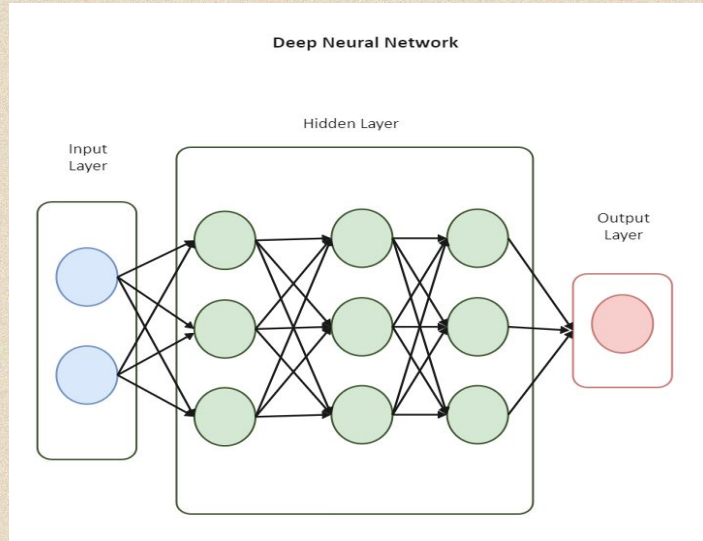
Use 80% of the images for training and 20%
for validation

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

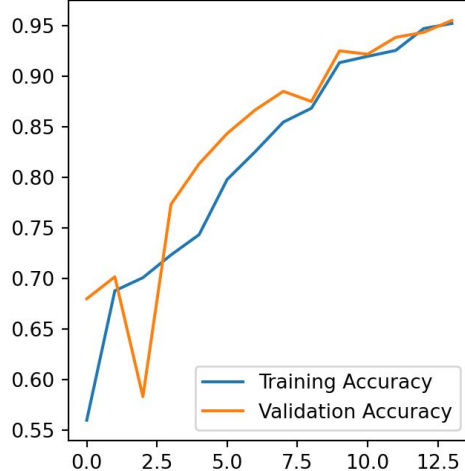
Winning Model

Baseline Accuracy	Model Accuracy
0.50	0.95

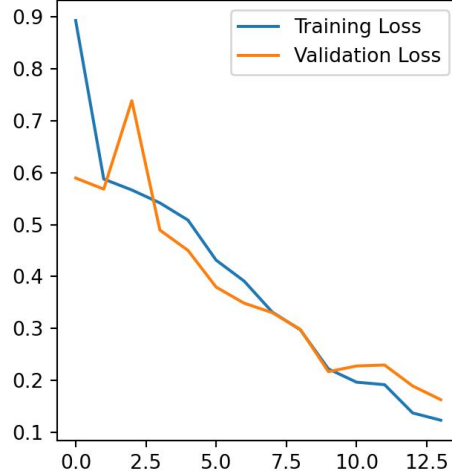


Winning Model

Training and Validation Accuracy



Training and Validation Loss

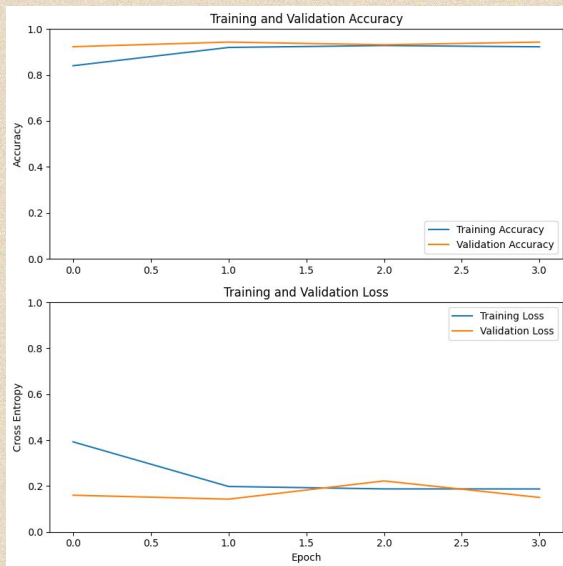


Other Model Options

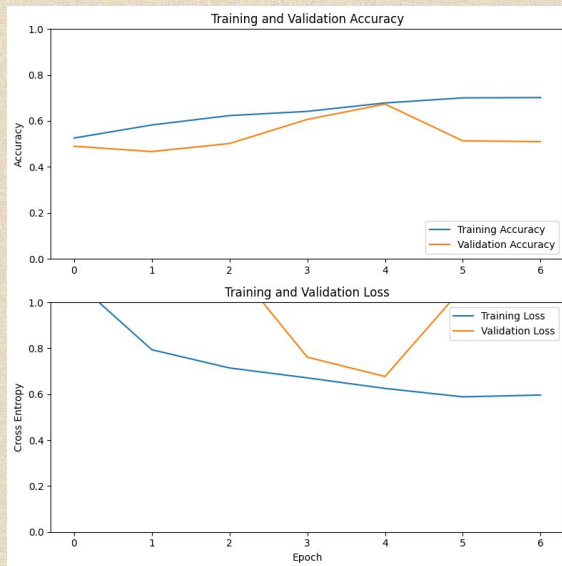
Deep Learning frameworks: Tensorflow and Keras

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

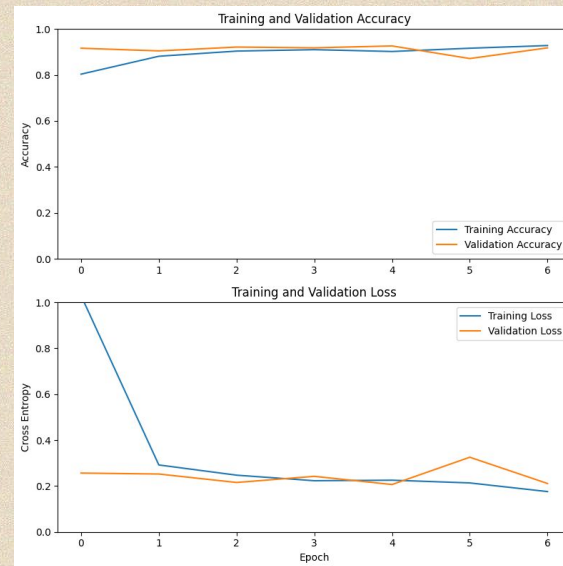
ResNet-50



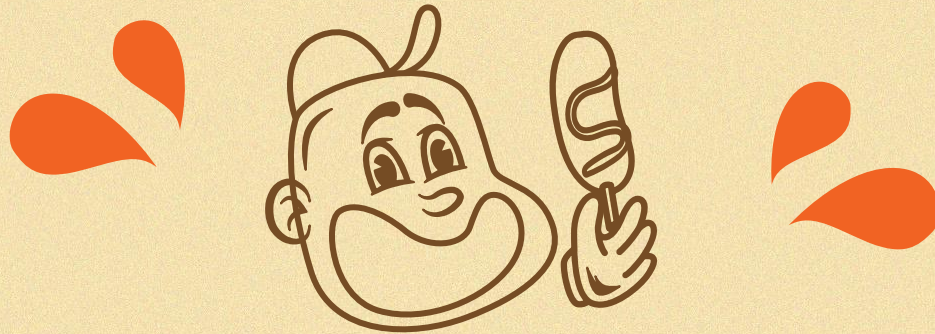
AlexNet



VGG-19



Streamlit App Debut



A word cloud centered around the phrase "hot dog". The words "hot" and "dog" are the largest and most prominent, rendered in a dark purple color. Surrounding them are numerous other words in various sizes and colors, including shades of orange, brown, and red. The words are arranged in a horizontal, somewhat elongated shape. The background is white, and the entire word cloud is set within a larger, light brown rectangular frame with rounded corners and a thin brown border.

hot dog

food

sausage

meat

mustard

snack

bun

chips

bbq

fast food

hotdog

delicious

healthy

salad

frankfurter

picnic

dinner

lunch

onion

tomatoes

greens

dogs

restaurant

calorie

hungry

pickles

pickled

chips

ingredient

relish

cooking

eat

melting

sandwich

gourmet

cucumbers

nutrition

bread

ingredients

grill

sauce

meal

tasty

fatty

ketchup

tomato

american

appetizer

barbecue

fries

potato

onions

grilled

breakfast

cheddar

unhealthy

pork

spicy

beef

beer

culture

junk

fast food

beef

wiener

traditional

pickles

table

edible

fresh

lettuce

cuisine

vegetables



Thank You!!

Any Questions?