

# Training Object Detection Models in Create ML

Alex Brown, Core ML

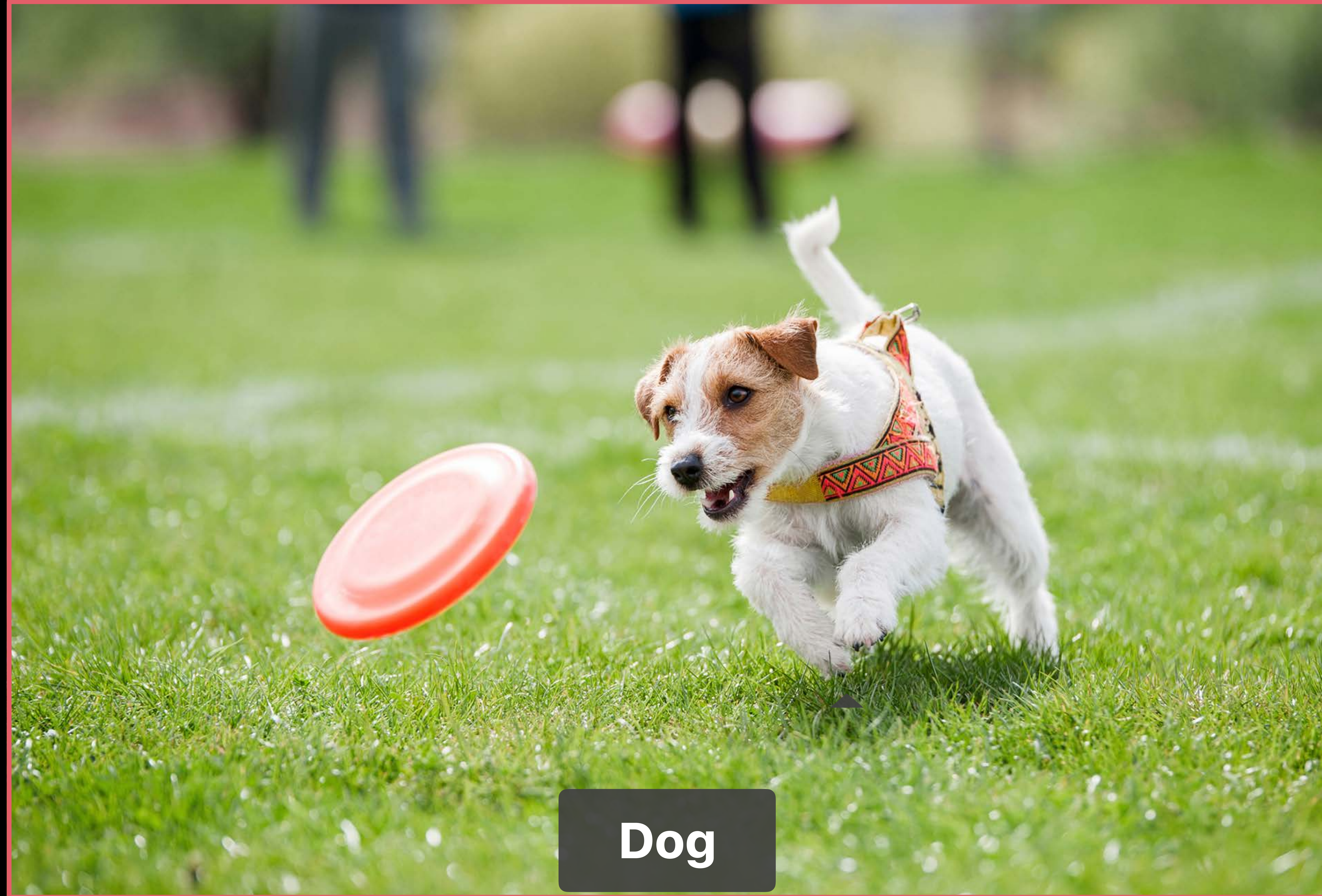
# Object Detection



# Image Classification

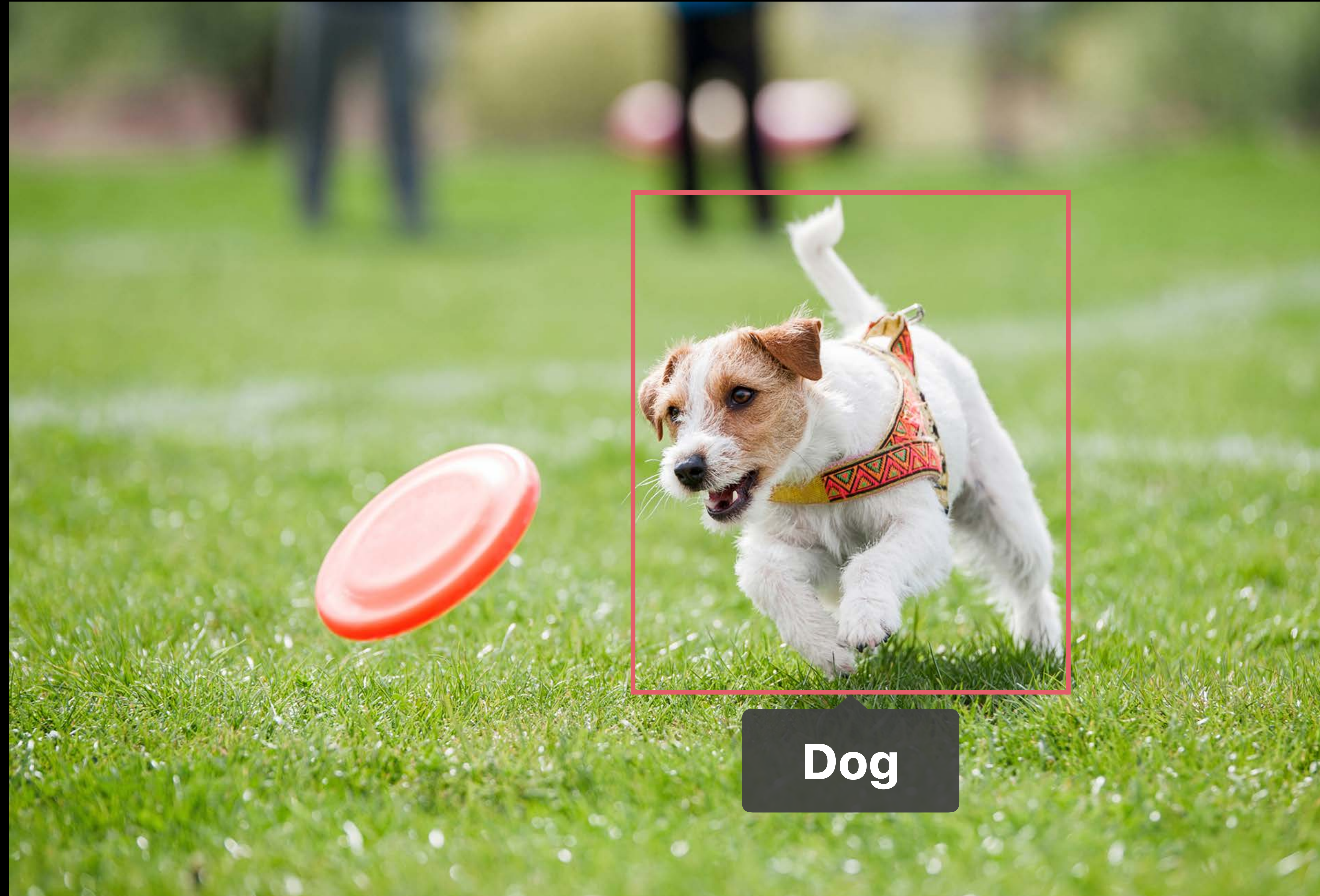


# Image Classification

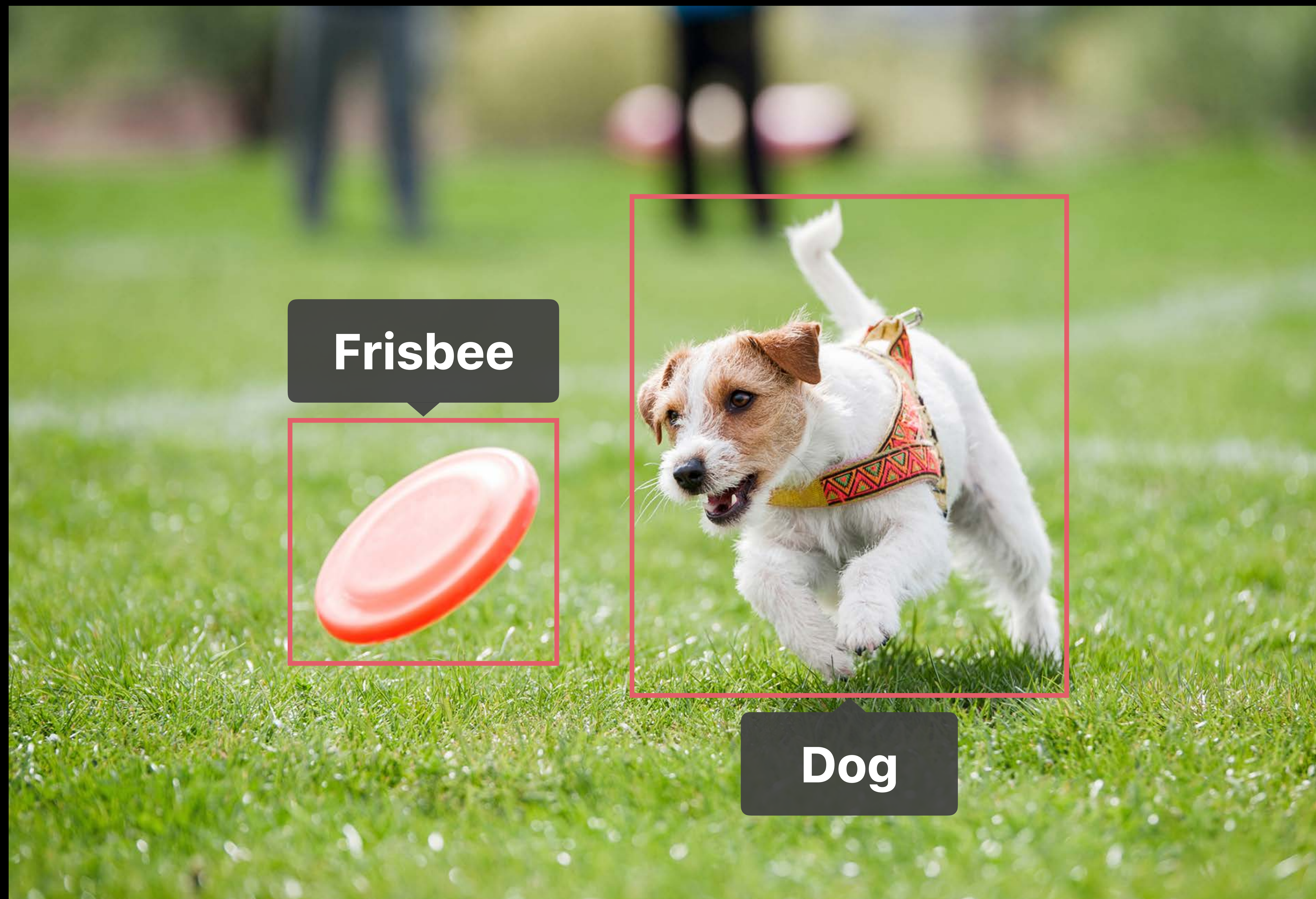


Dog

# Object Detection



# Object Detection

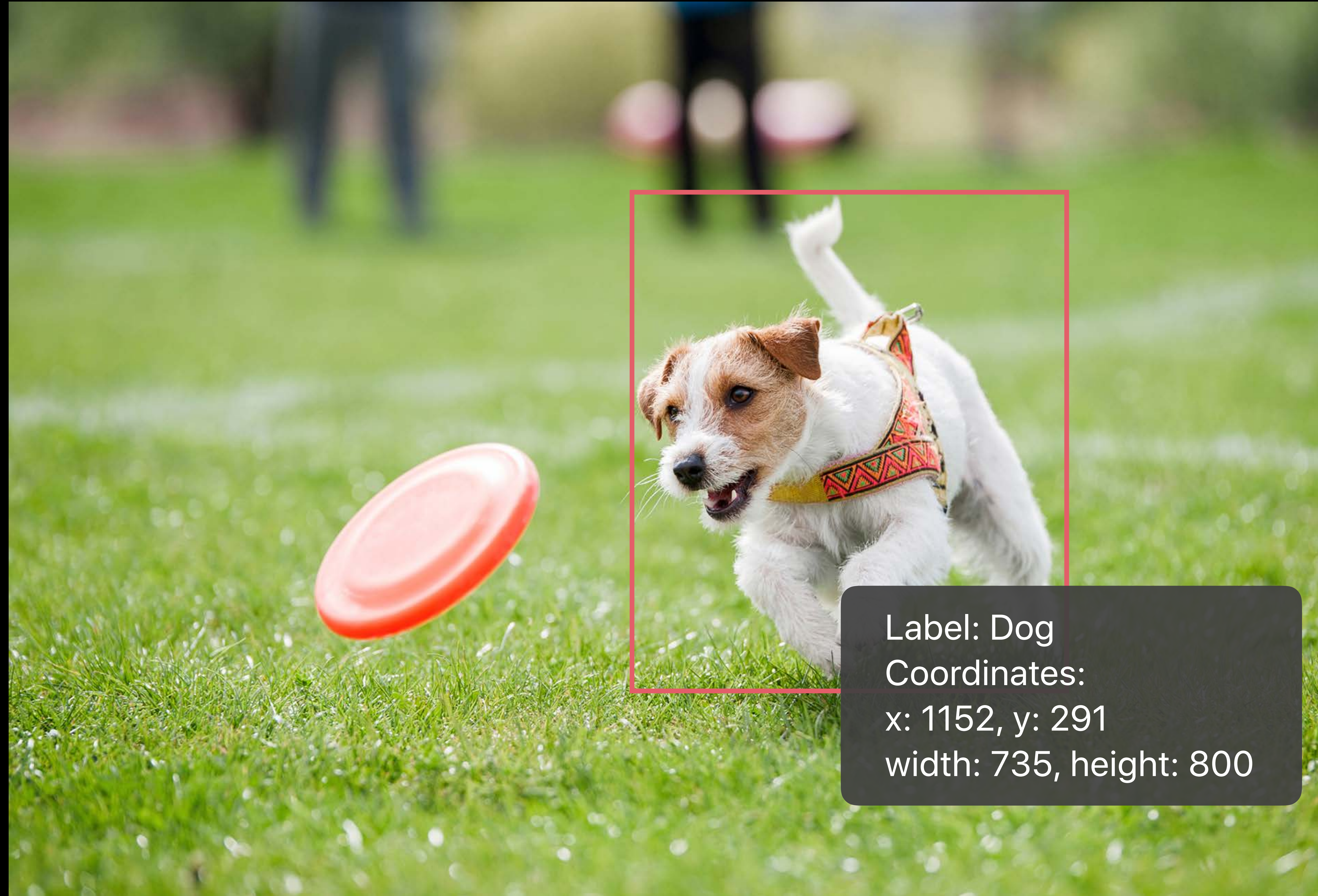


# Object Detection



# Object Detection

0,0

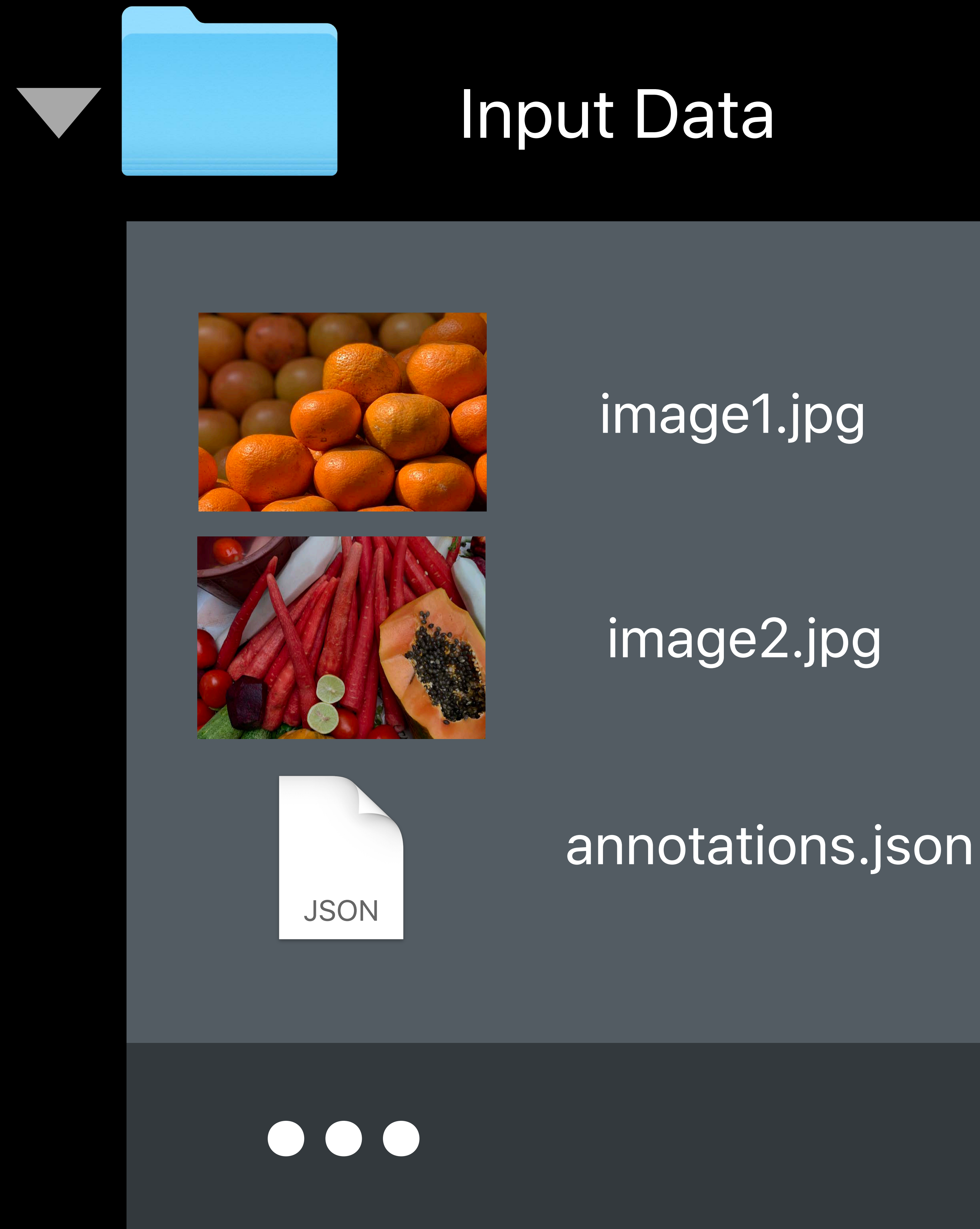


Label: Dog  
Coordinates:  
x: 1152, y: 291  
width: 735, height: 800





# Training Data



# Dice Detection Model



# Dice Detection Model



***Demo***

Object Detection in Create ML

# Considerations

Number of images

Balanced number of images in each class

30+ images per class

# Considerations

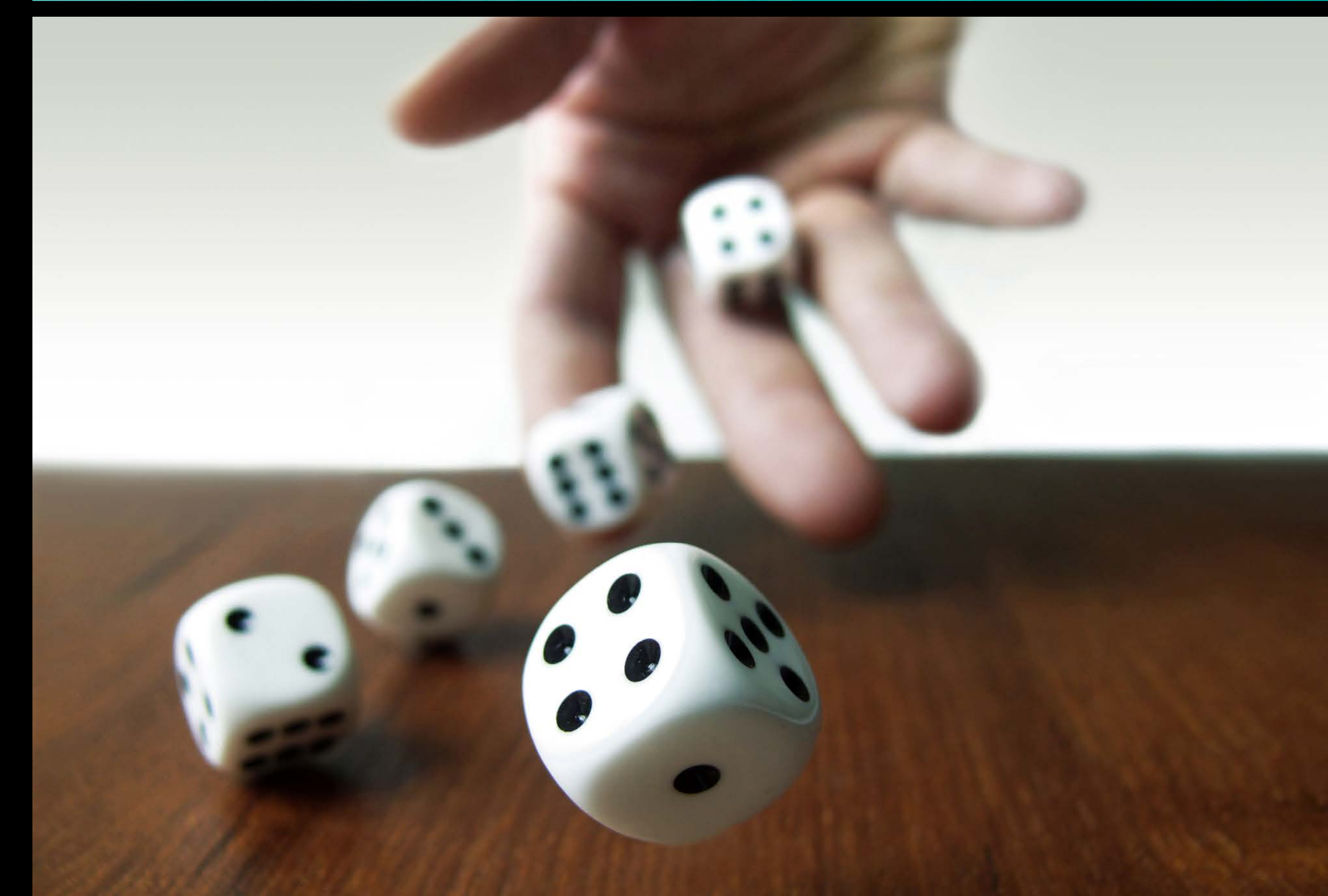
Real-world data

Multiple angles

Variation of backgrounds

Different lighting conditions

Other objects in images



# Considerations

A single class is enough





# Considerations

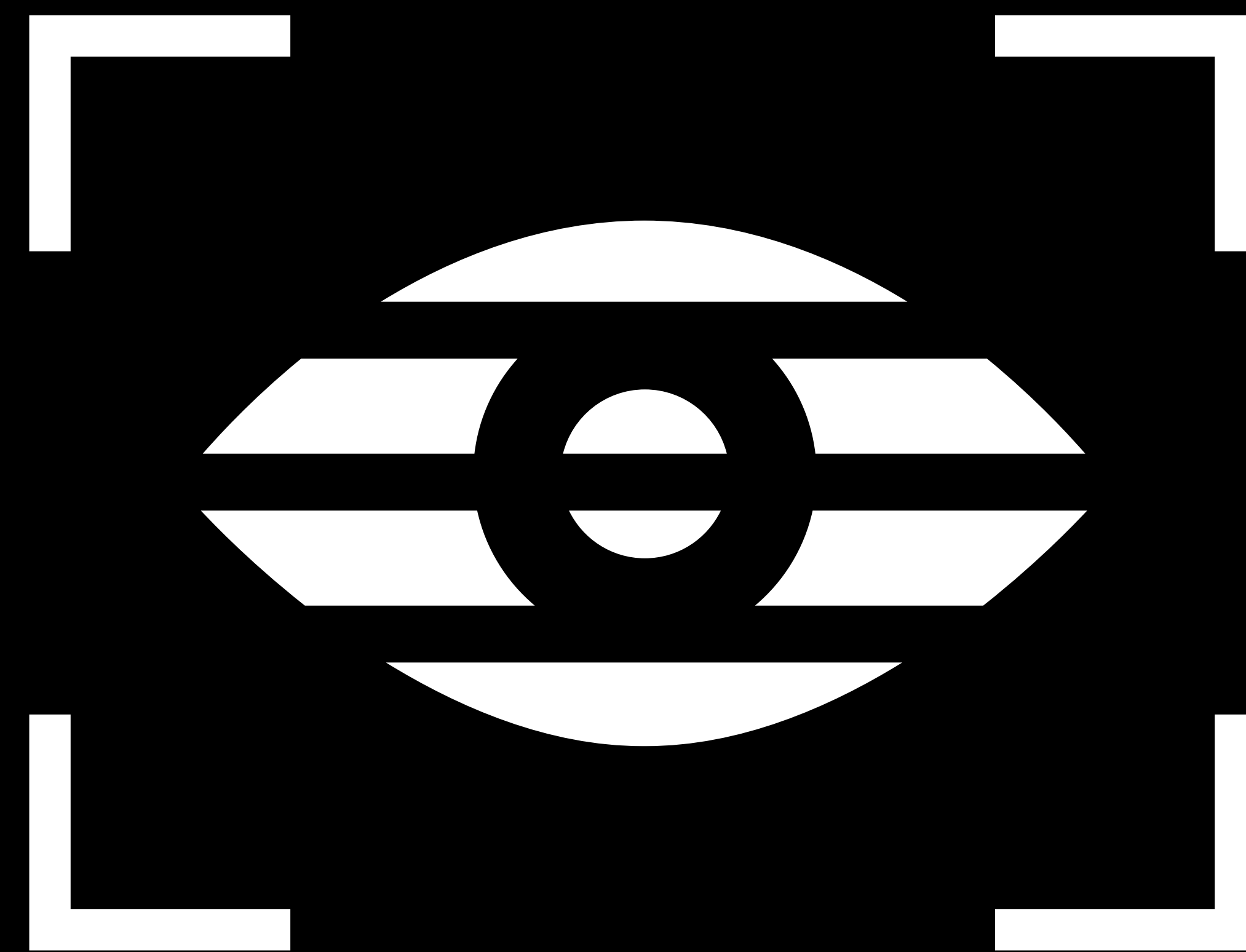
A single class is enough

Not Dog



Dog

# Vision Framework



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Understanding Images in Vision Framework

Wednesday, 10:00

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Vision Framework: Building on Core ML

WWDC 2017

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# More Information

[developer.apple.com/wwdc19/424](https://developer.apple.com/wwdc19/424)

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Create ML for Activity, Text, and Recommendations

Thursday, 2:00

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Machine Learning Labs

Daily

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