

Training Object Detection Models in Create ML

Alex Brown, Core ML

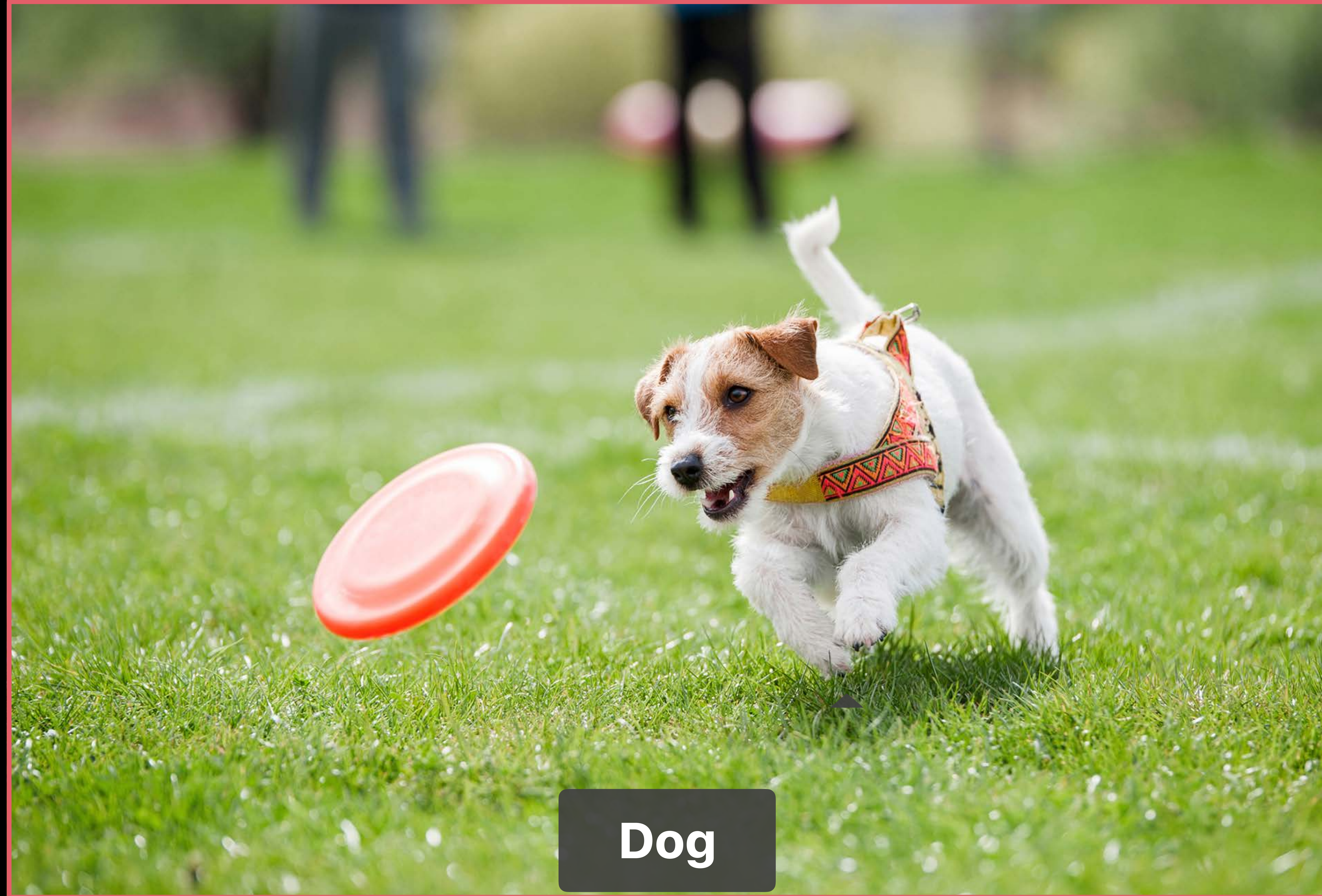
Object Detection



Image Classification

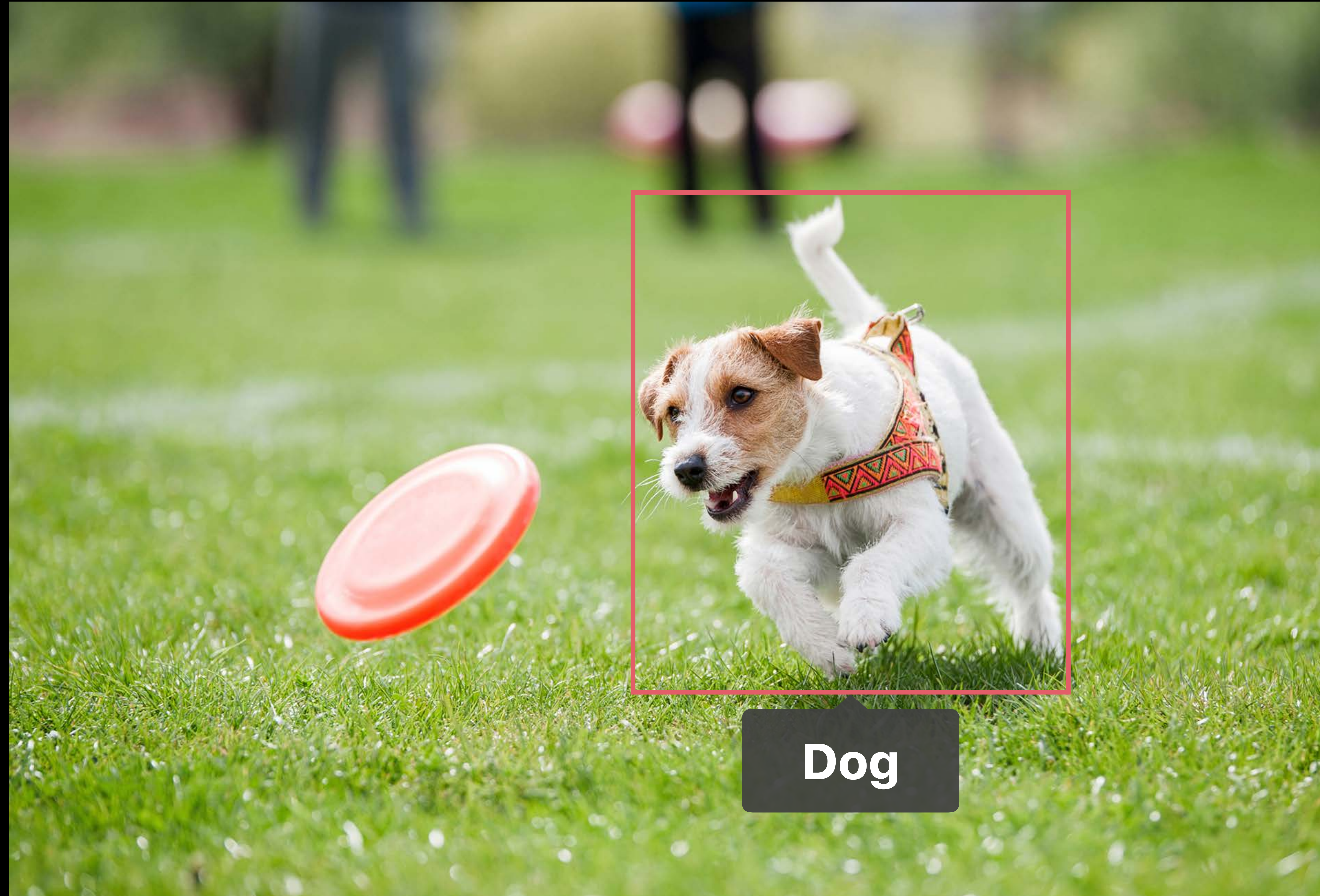


Image Classification

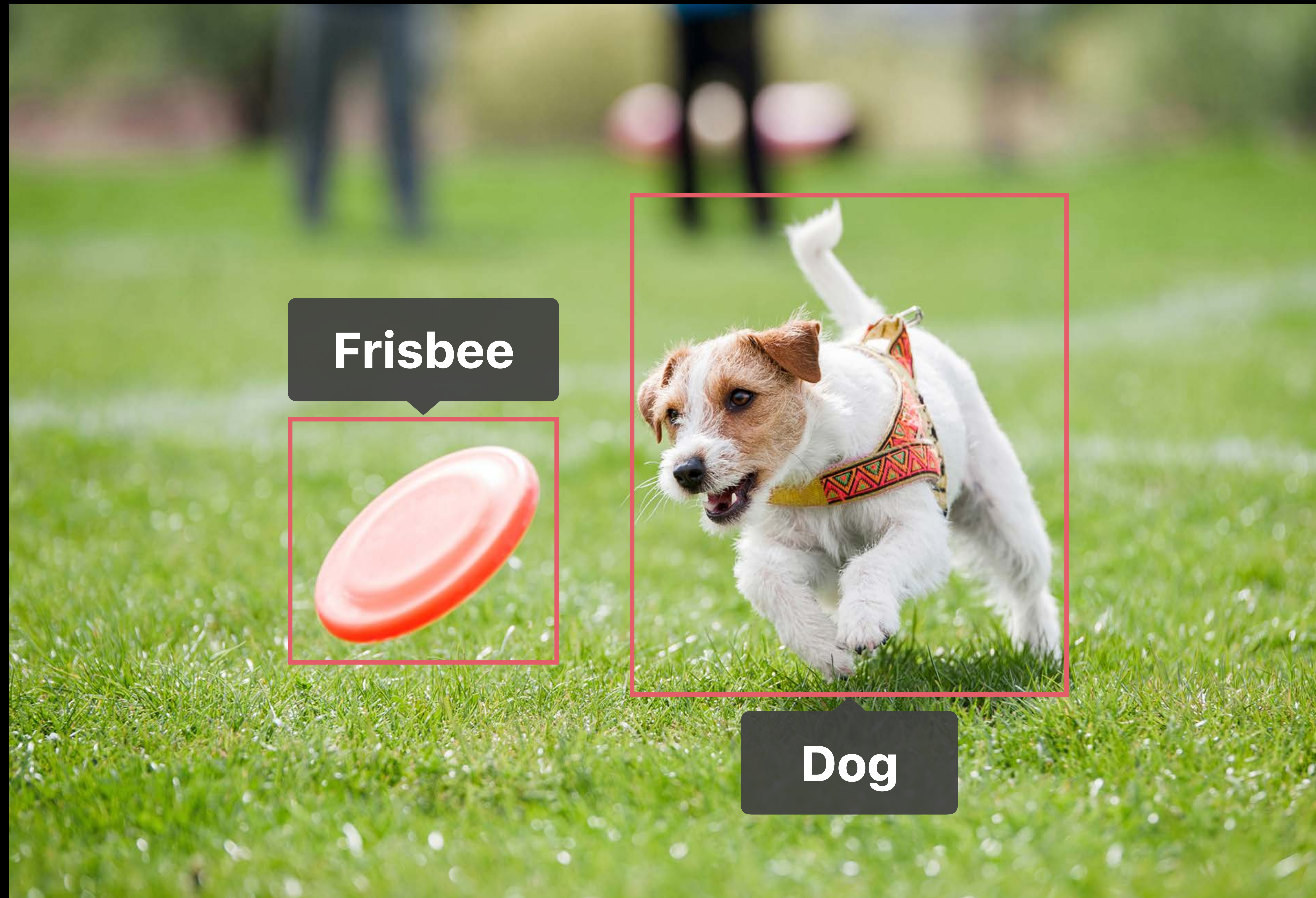


Dog

Object Detection



Object Detection

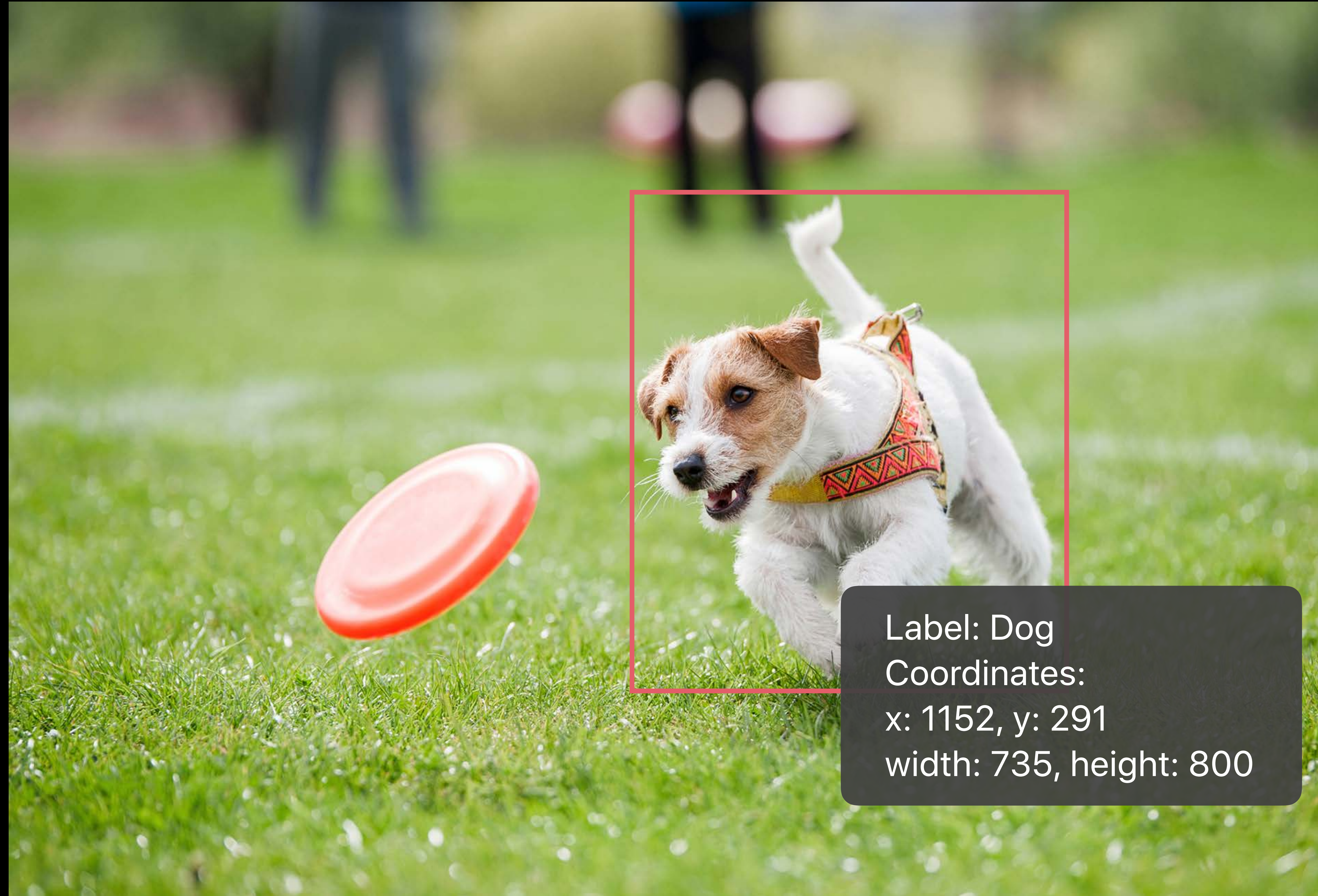


Object Detection



Object Detection

0,0



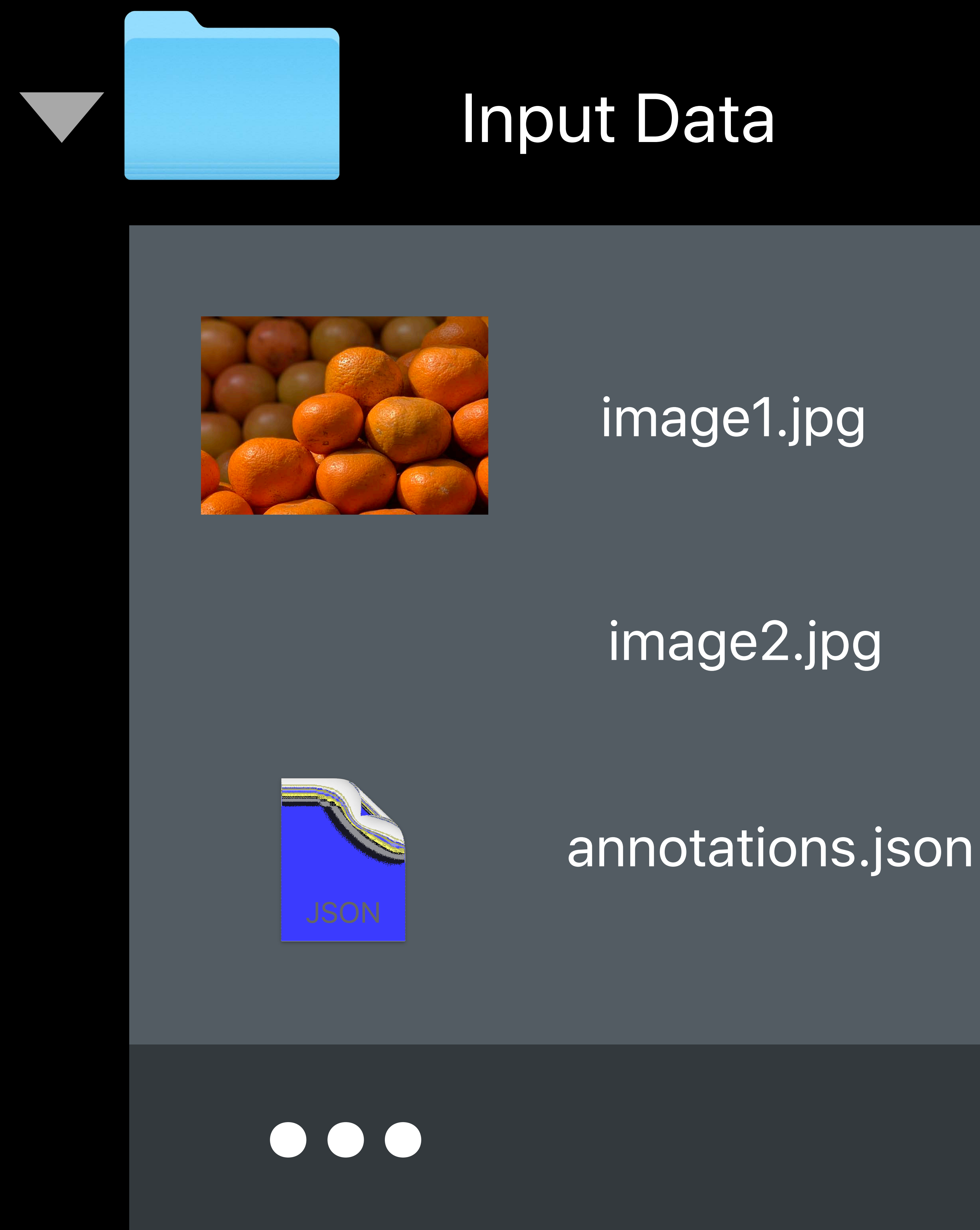
Label: Dog

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

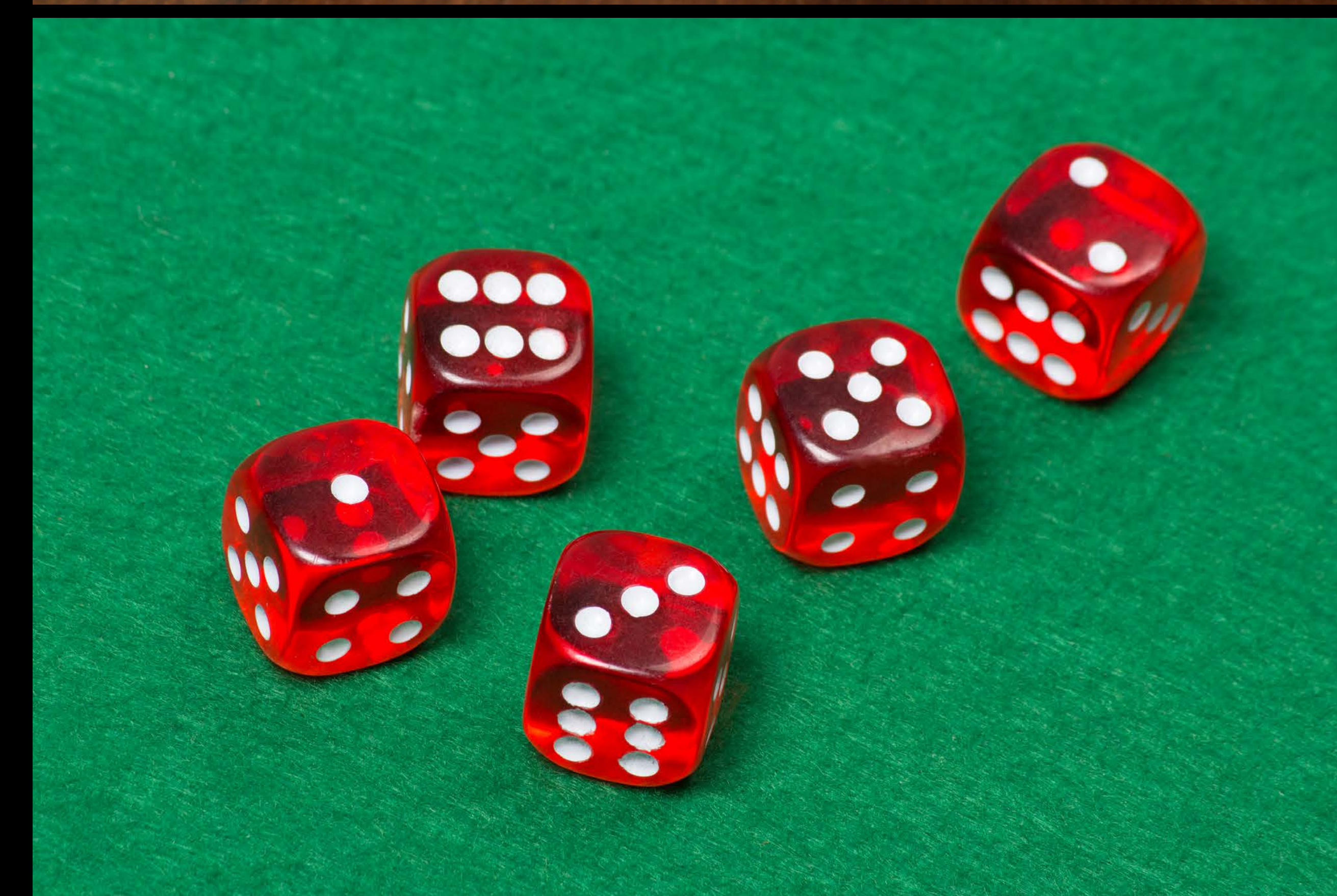
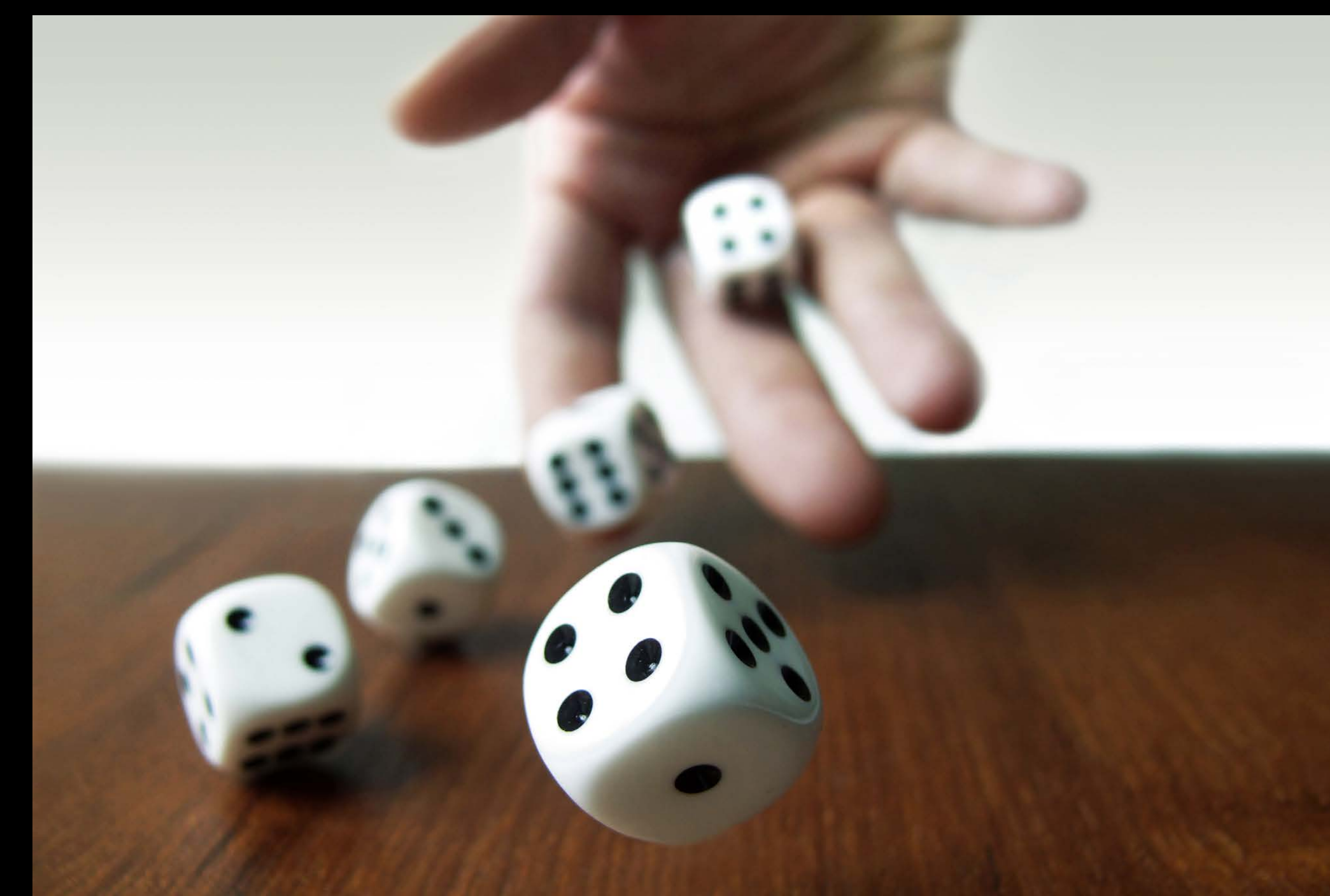
Real-world data

Multiple angles

Variation of backgrounds

Different lighting conditions

Other objects in images



Considerations

A single class is enough



Considerations

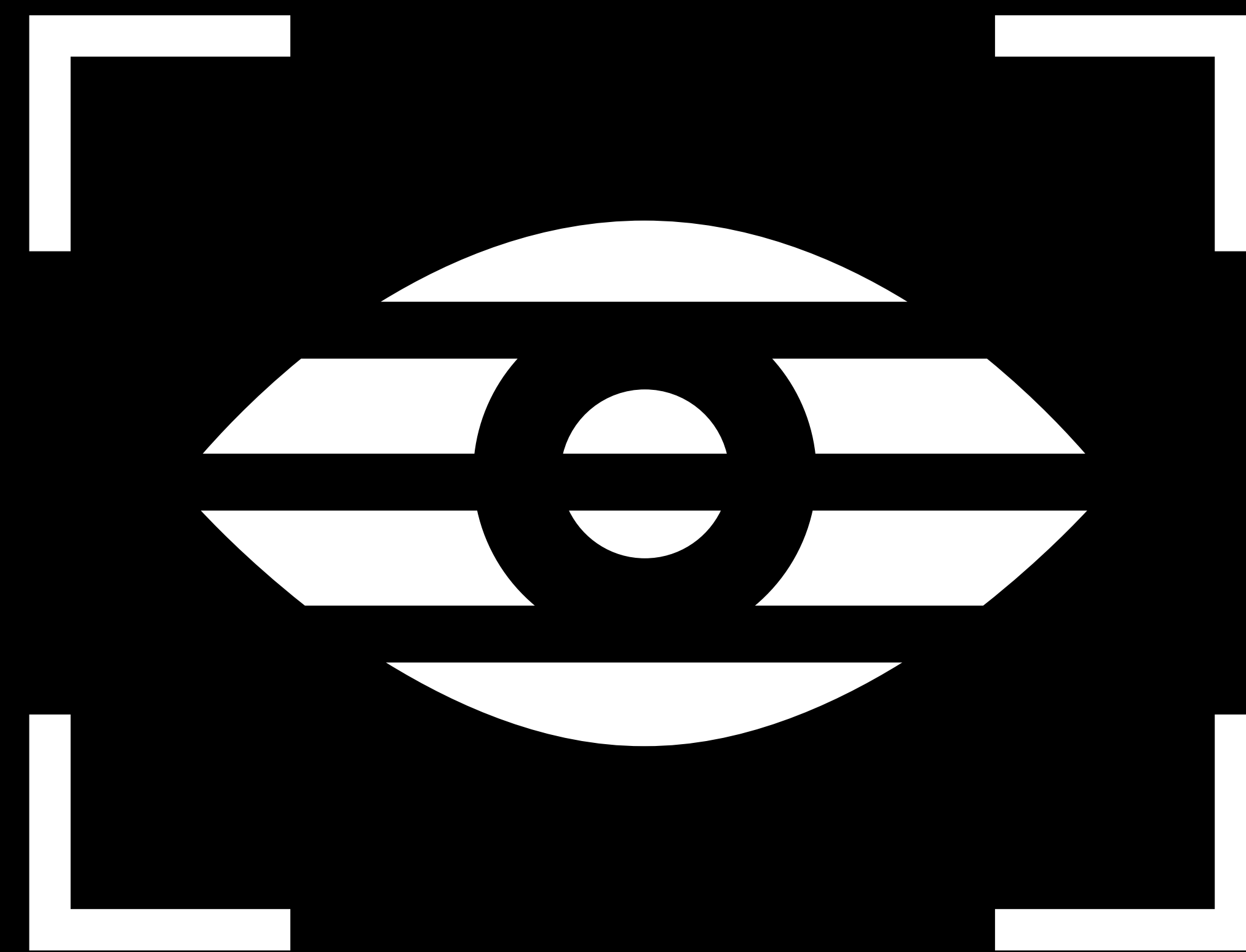
A single class is enough

Not Dog



Dog

Vision Framework



Understanding Images in Vision Framework

Wednesday, 10:00

Vision Framework: Building on Core ML

WWDC 2017

More Information

developer.apple.com/wwdc19/424

Create ML for Activity, Text, and Recommendations

Thursday, 2:00

Machine Learning Labs

Daily

 WWDC19