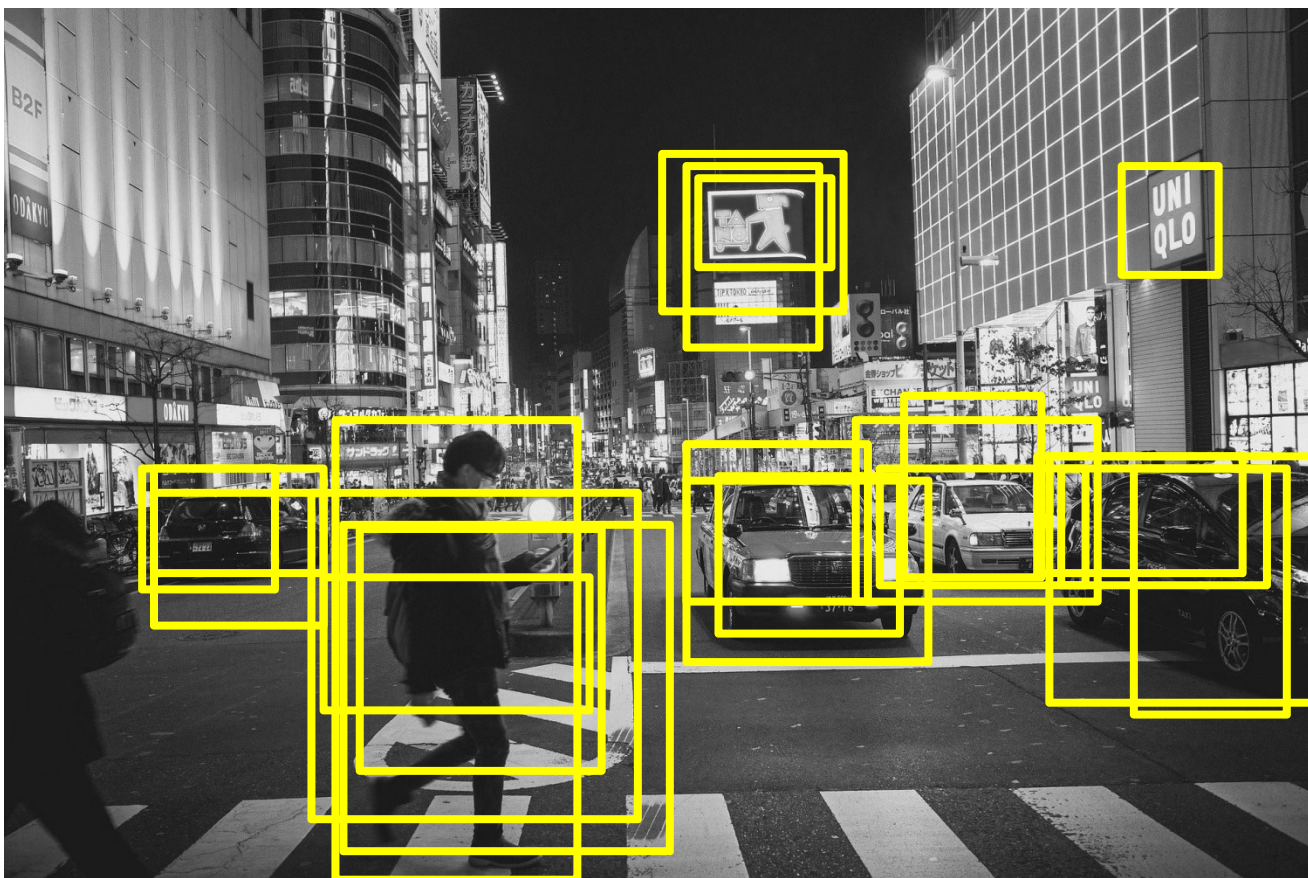
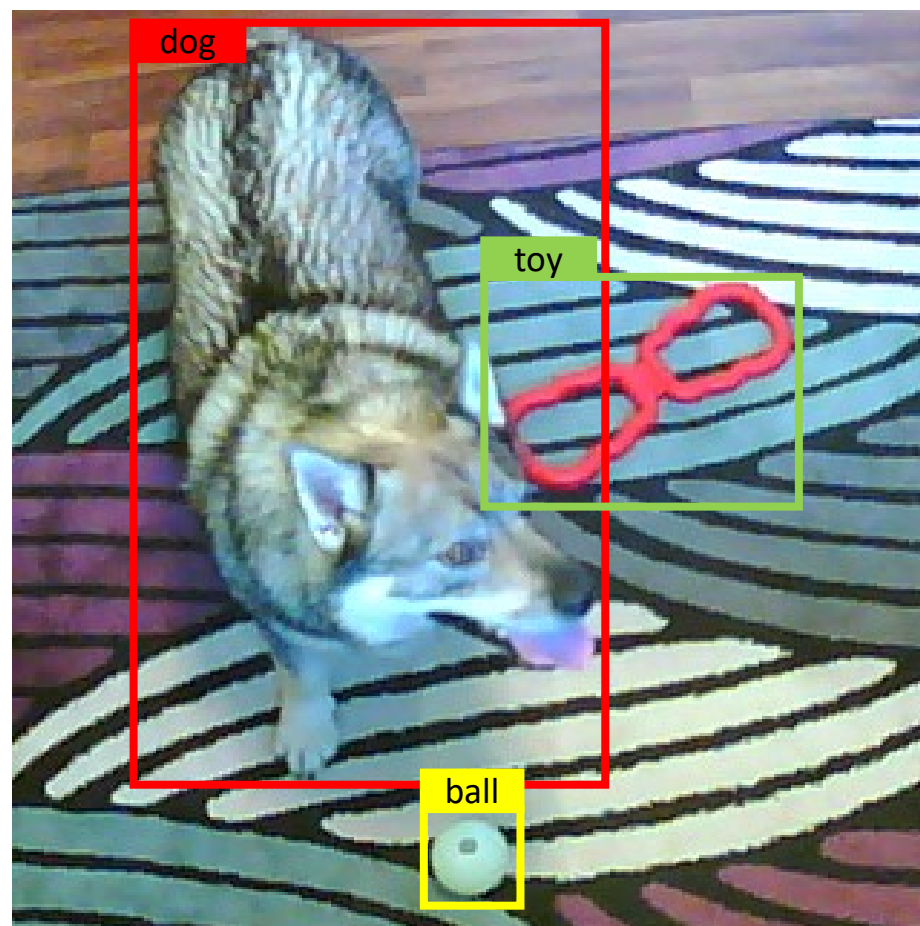


# Computer Vision with Embedded Machine Learning

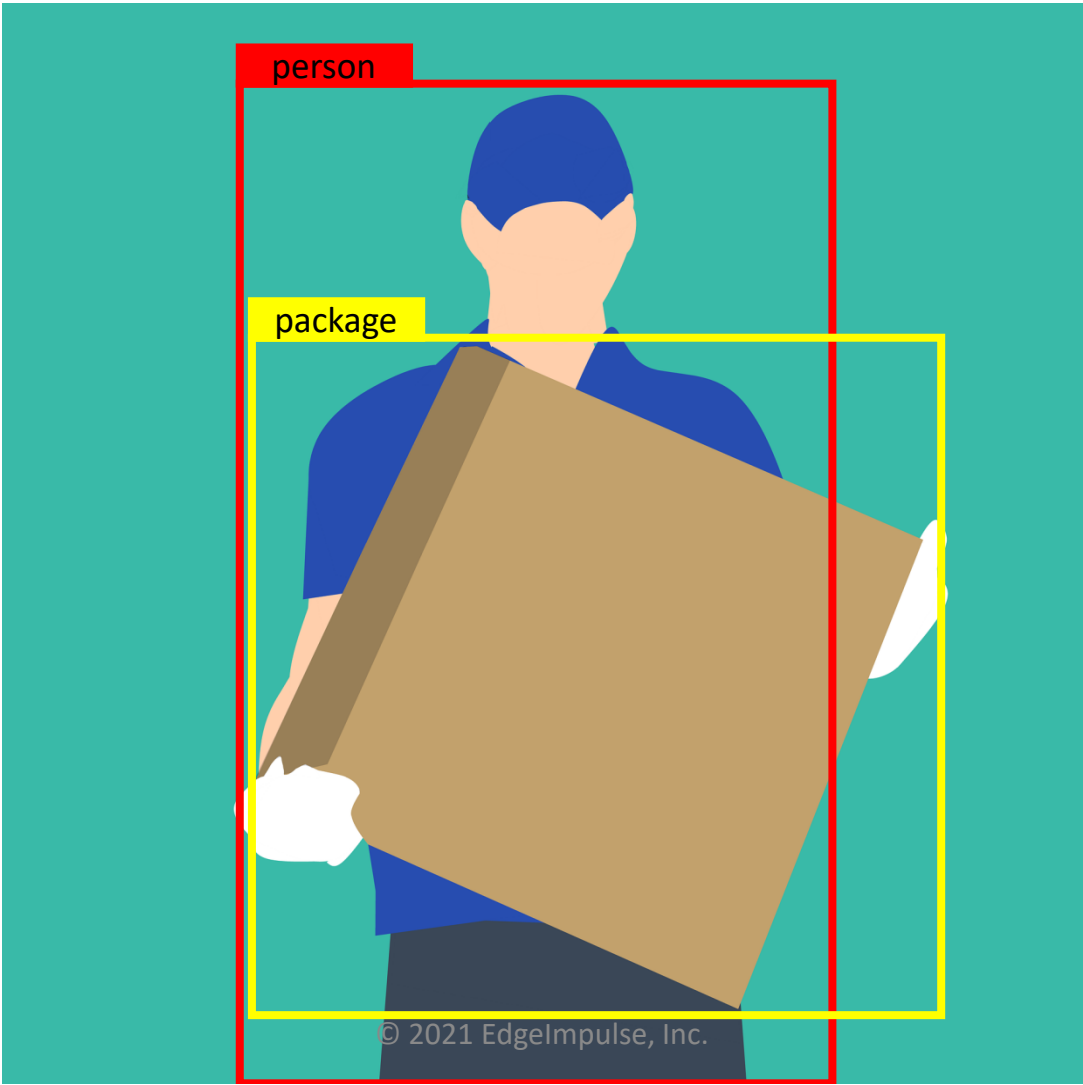
## Object Detection Models

## Region-based Convolutional Neural Network (R-CNN)

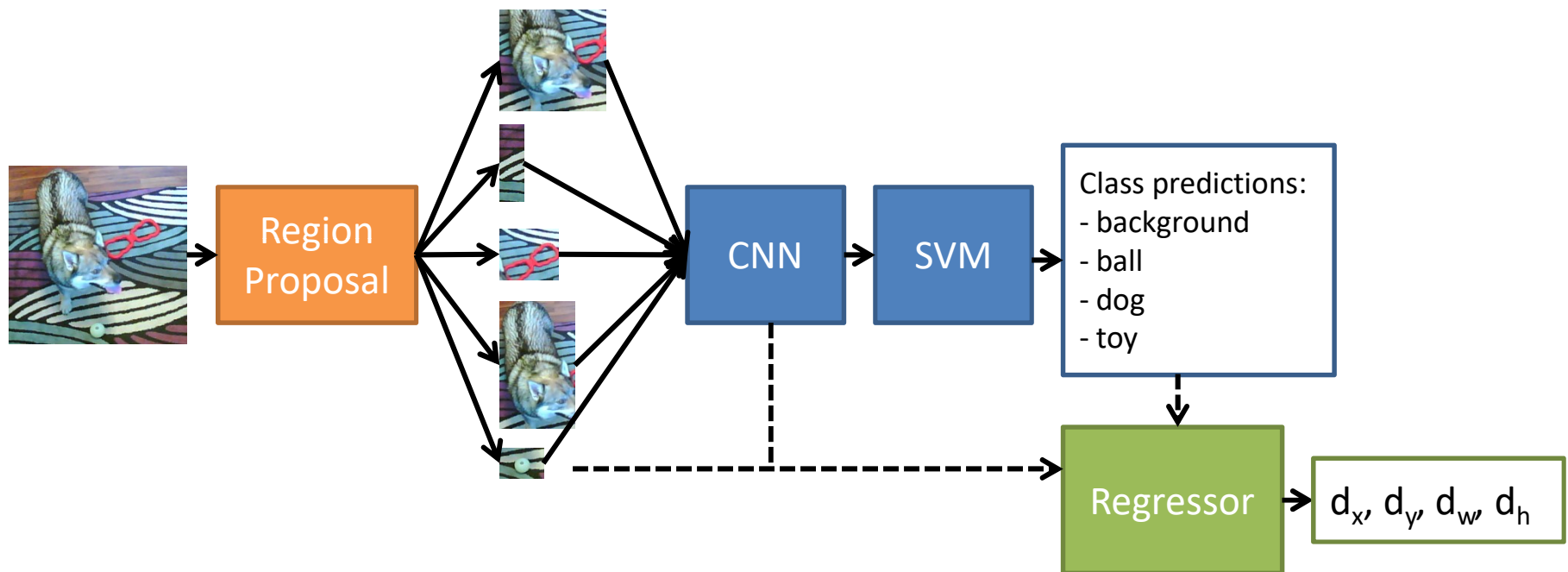




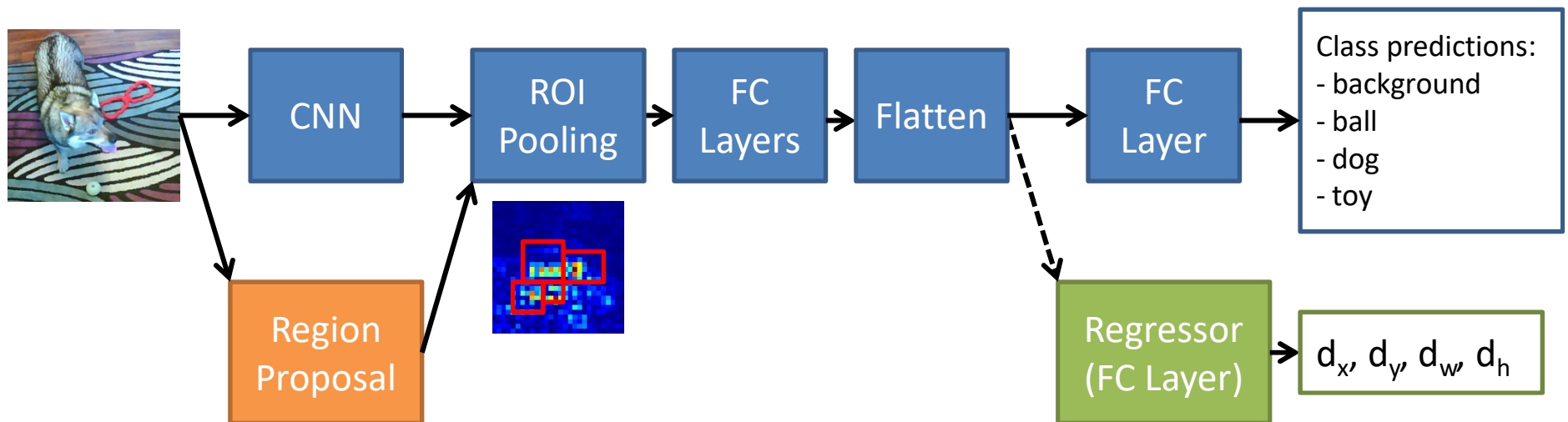
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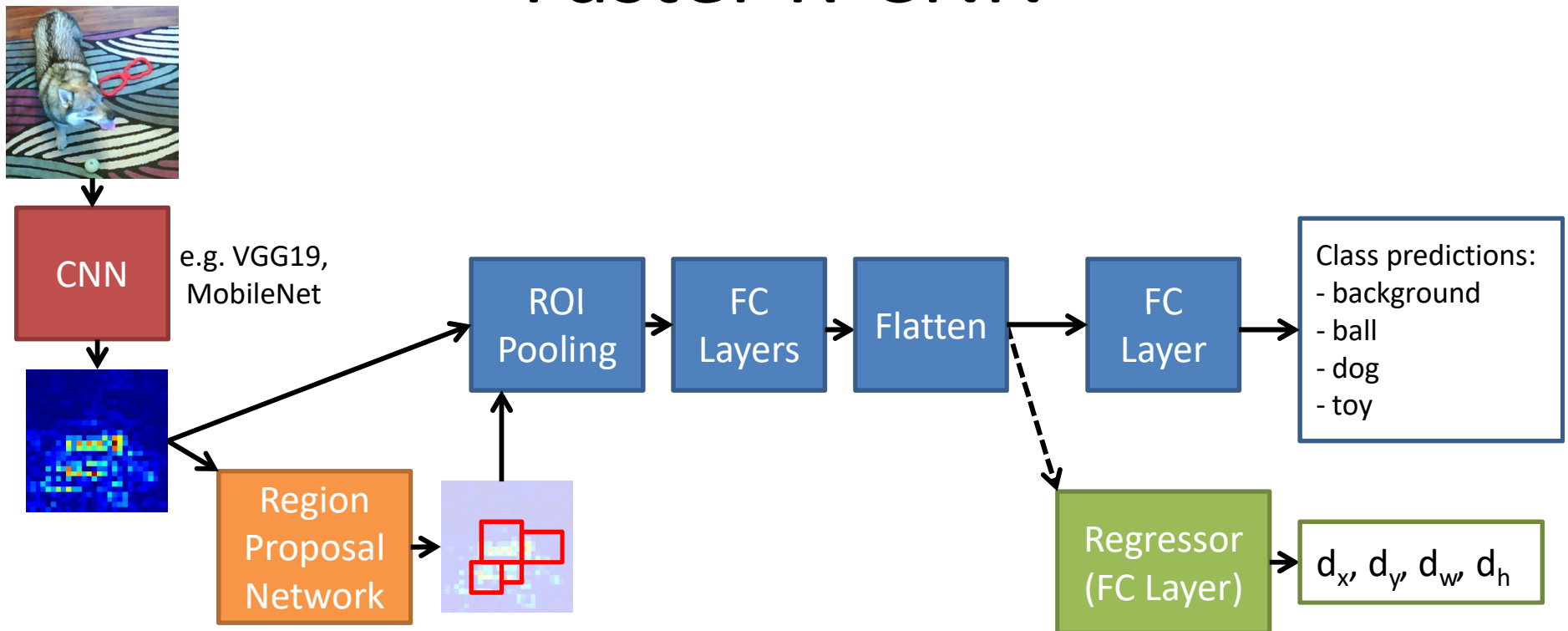
# R-CNN



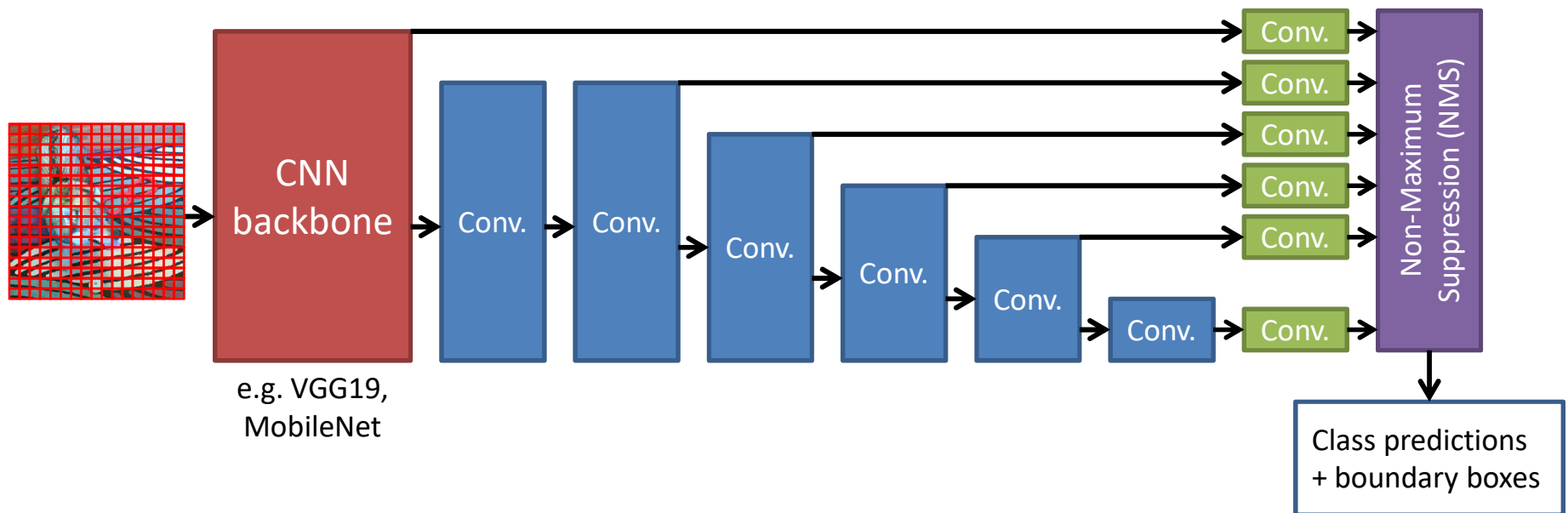
# Fast R-CNN



# Faster R-CNN

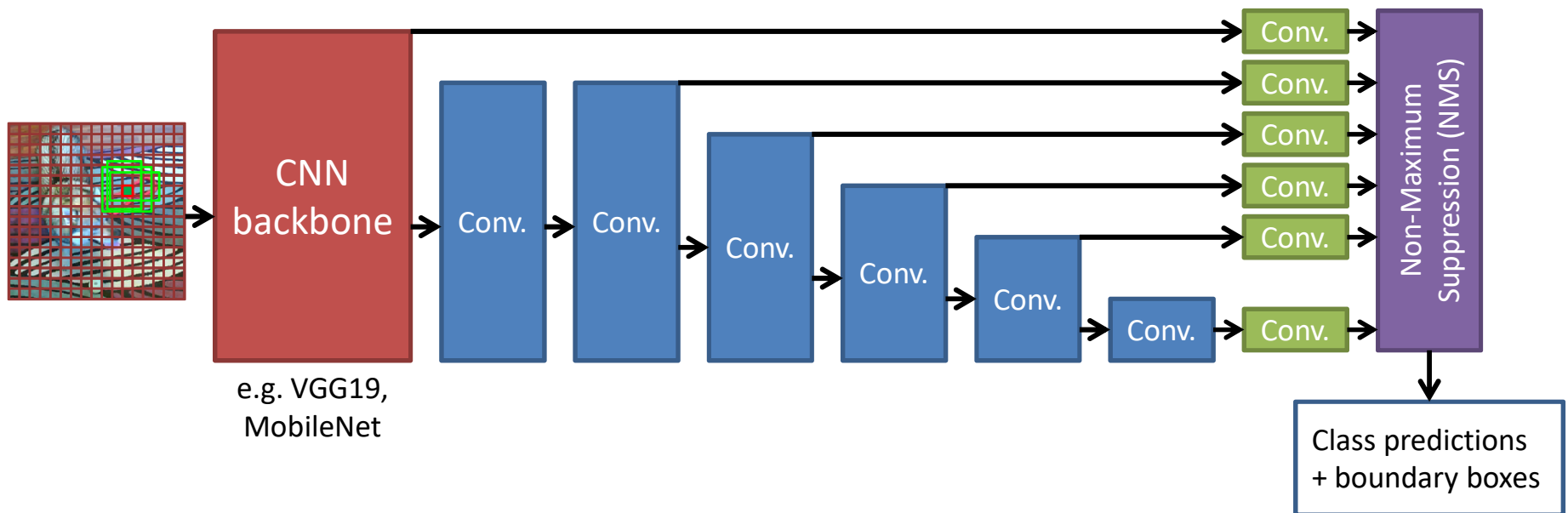


# Single Shot MultiBox Detector (SSD)

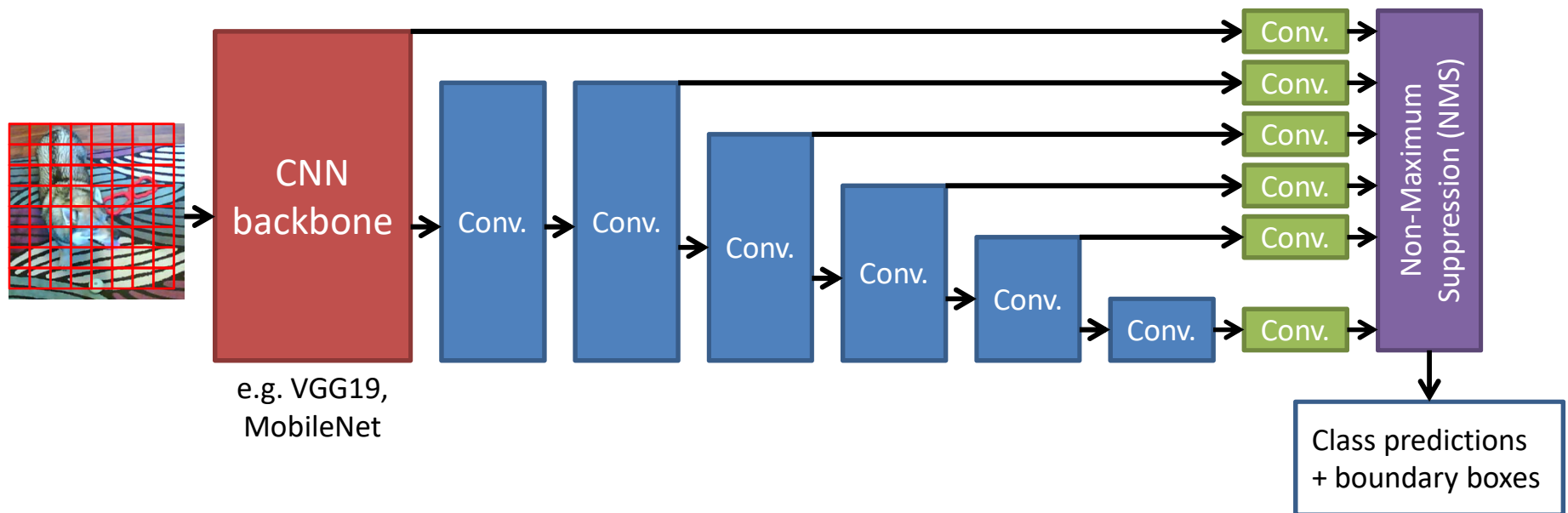




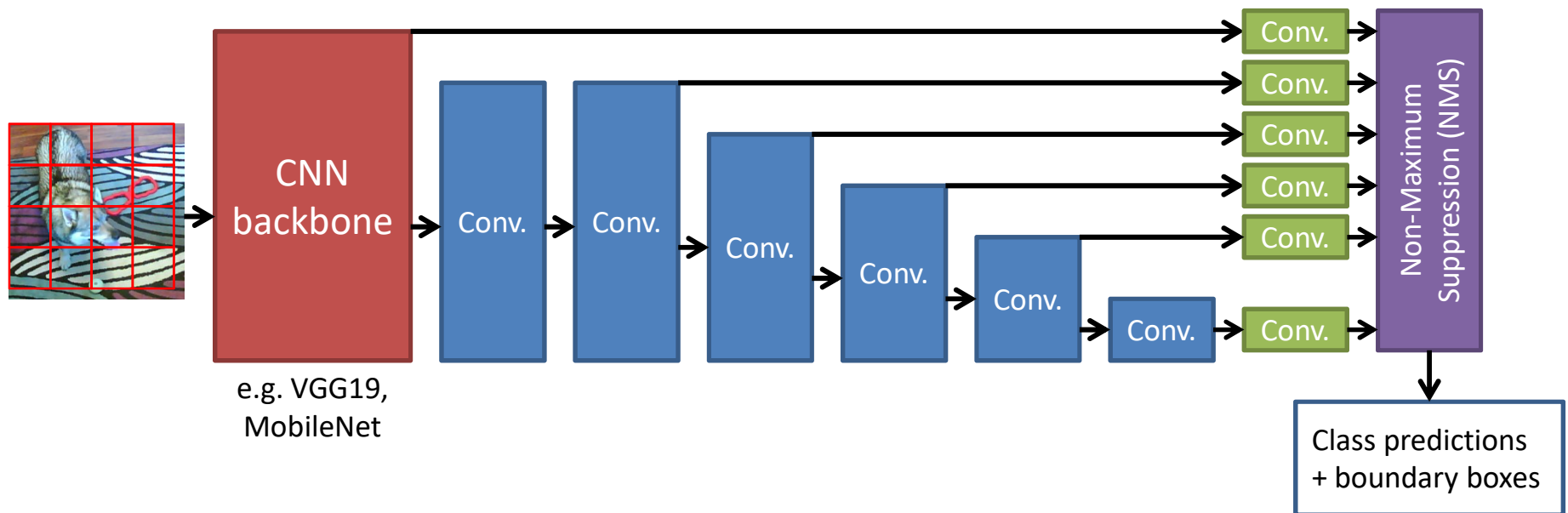
# Single Shot MultiBox Detector (SSD)



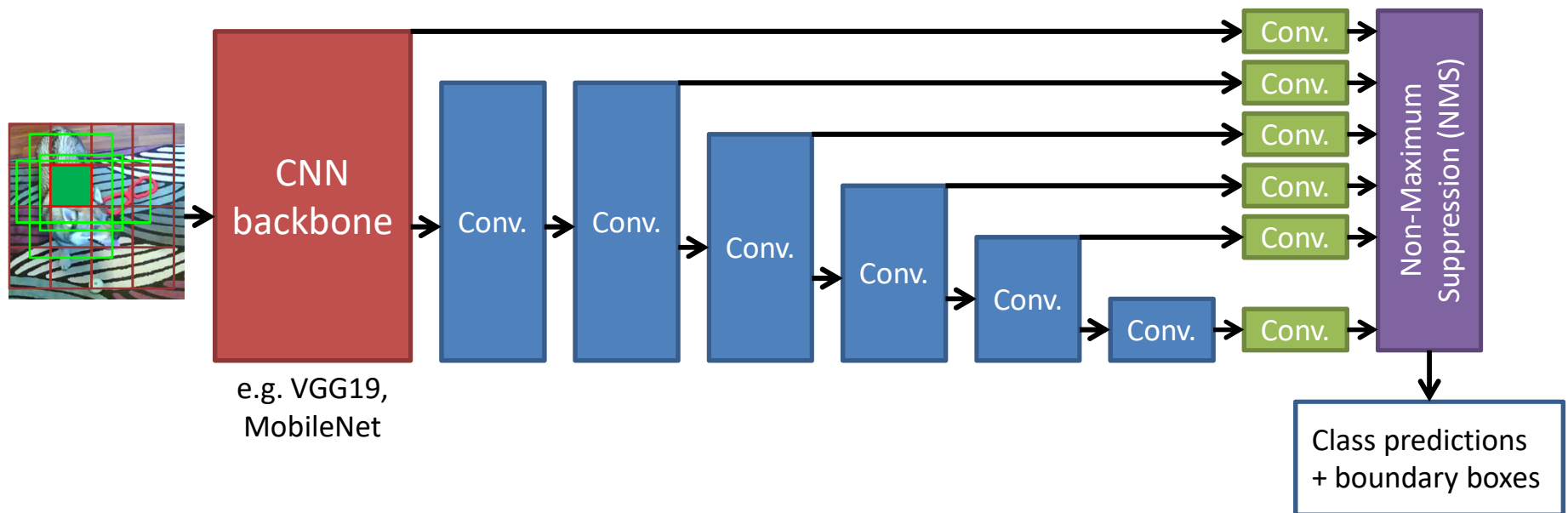
# Single Shot MultiBox Detector (SSD)



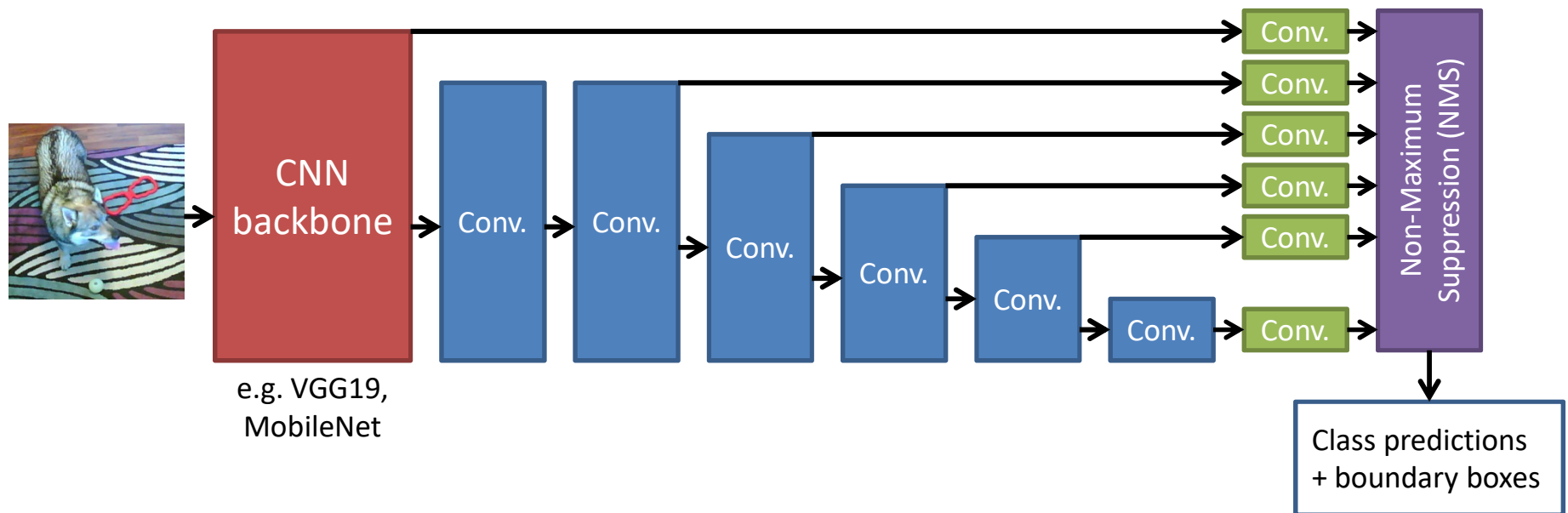
# Single Shot MultiBox Detector (SSD)



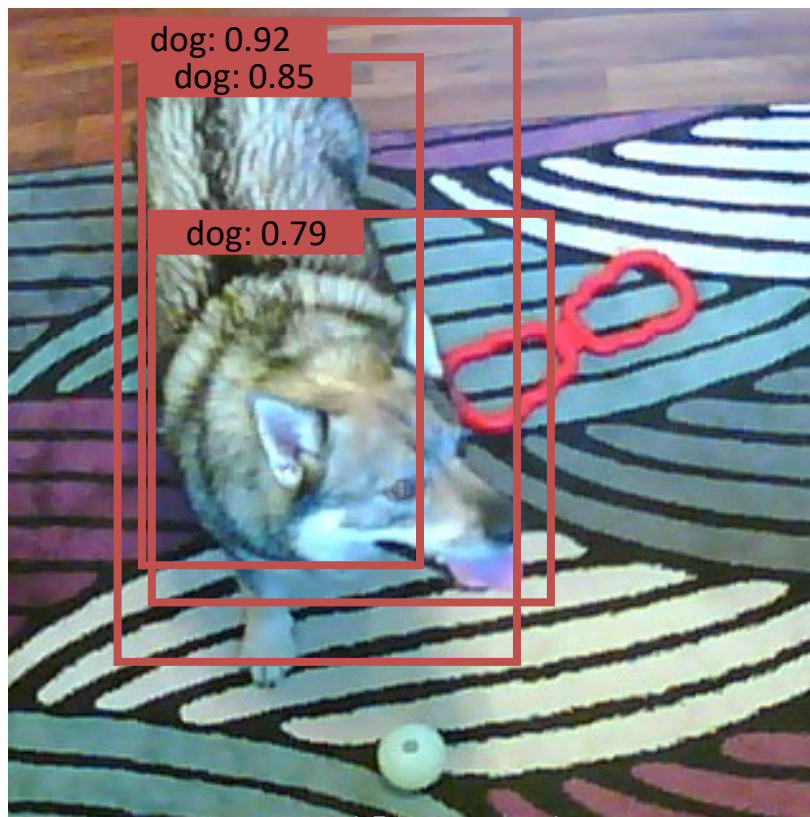
# Single Shot MultiBox Detector (SSD)



# Single Shot MultiBox Detector (SSD)

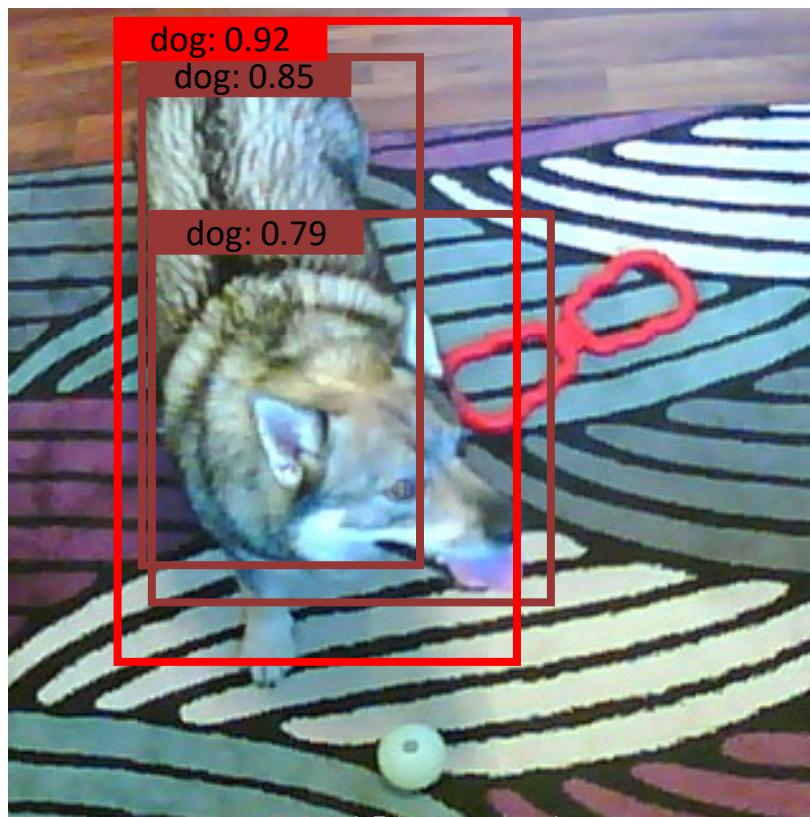


# Non-Maximum Suppression (NMS)



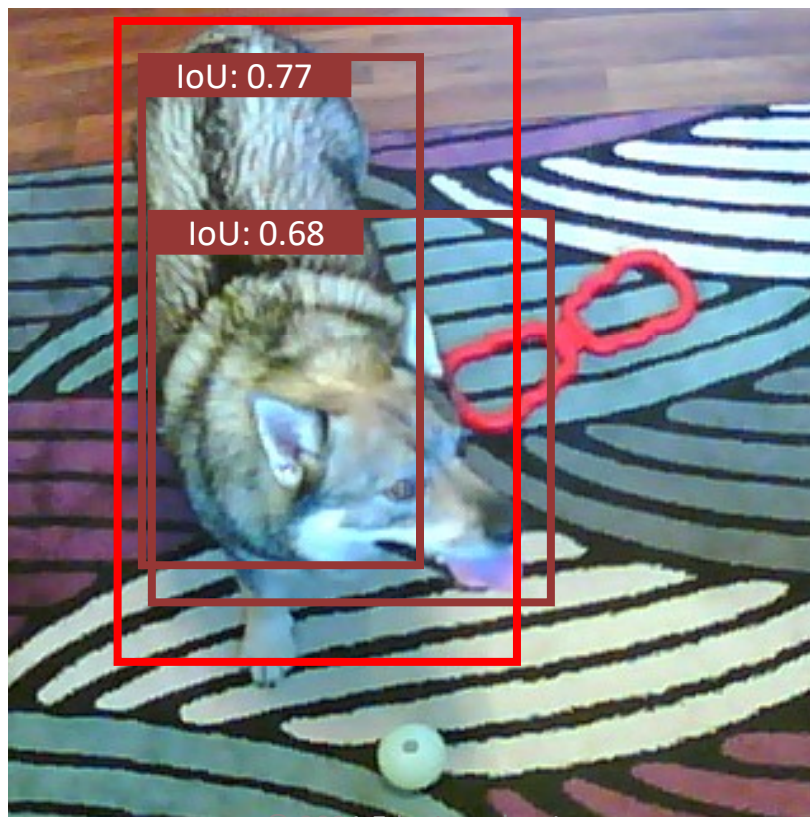
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# Non-Maximum Suppression (NMS)



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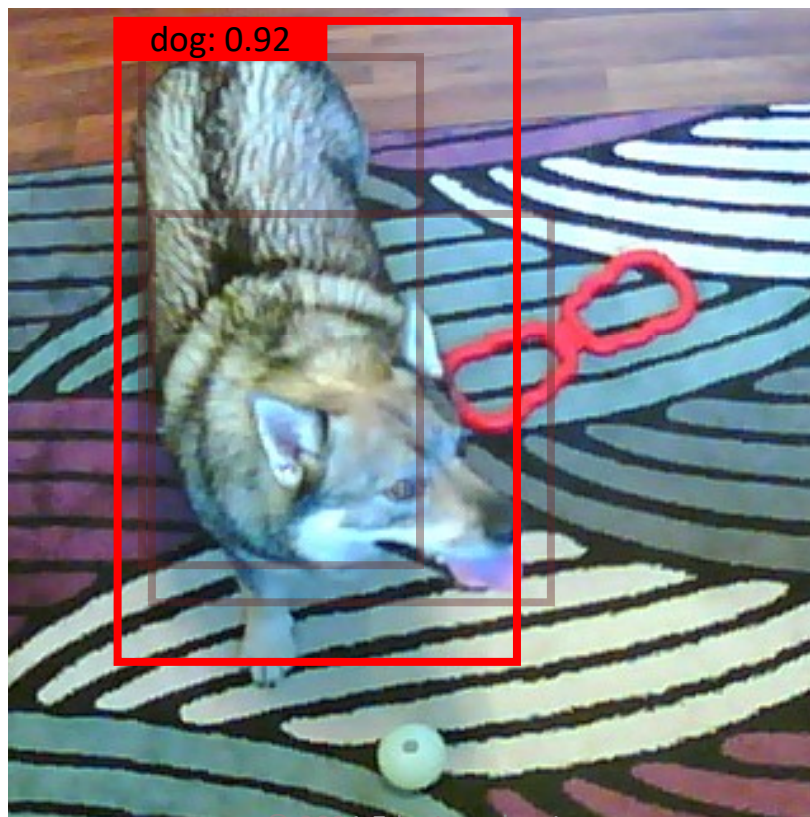
# Non-Maximum Suppression (NMS)



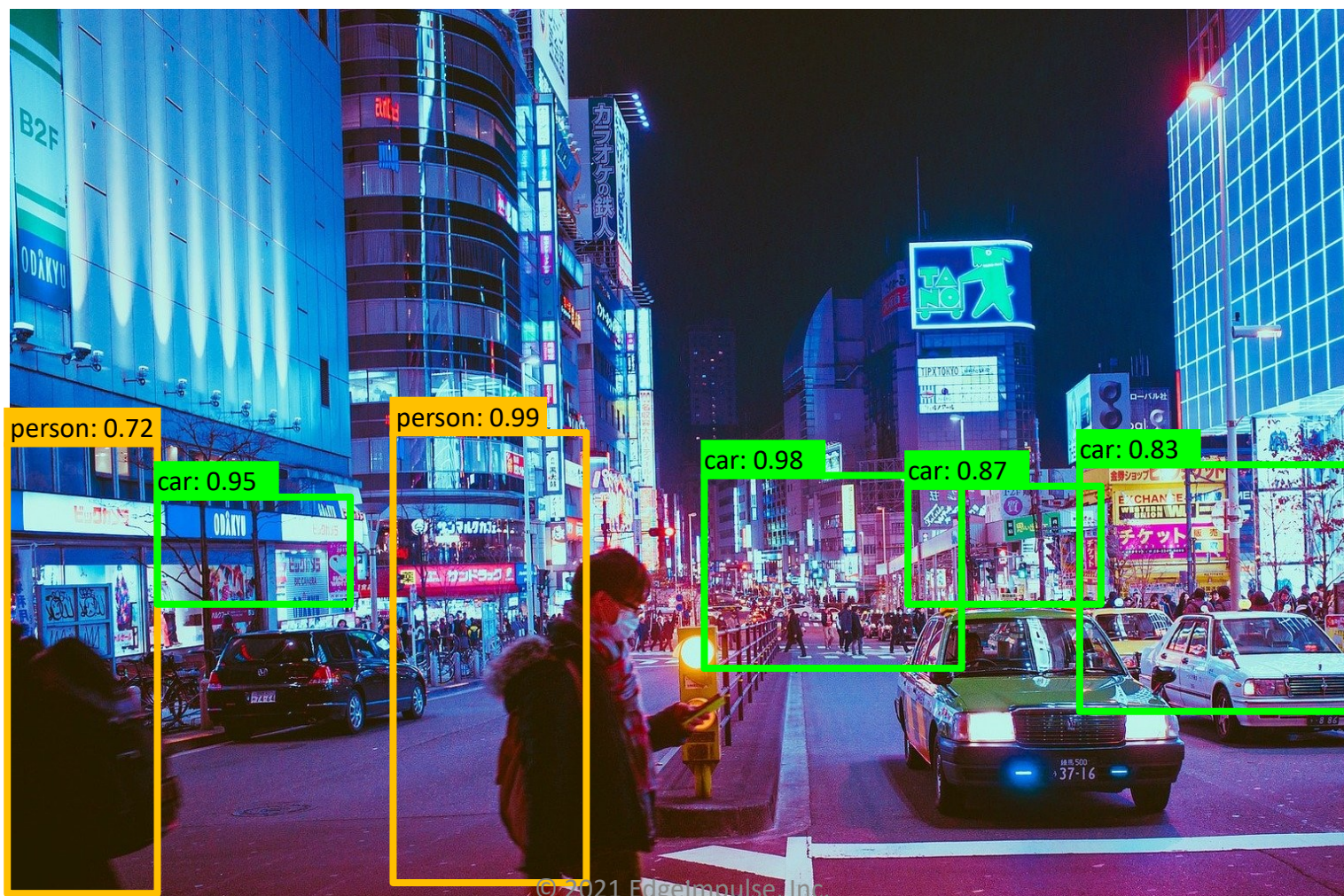
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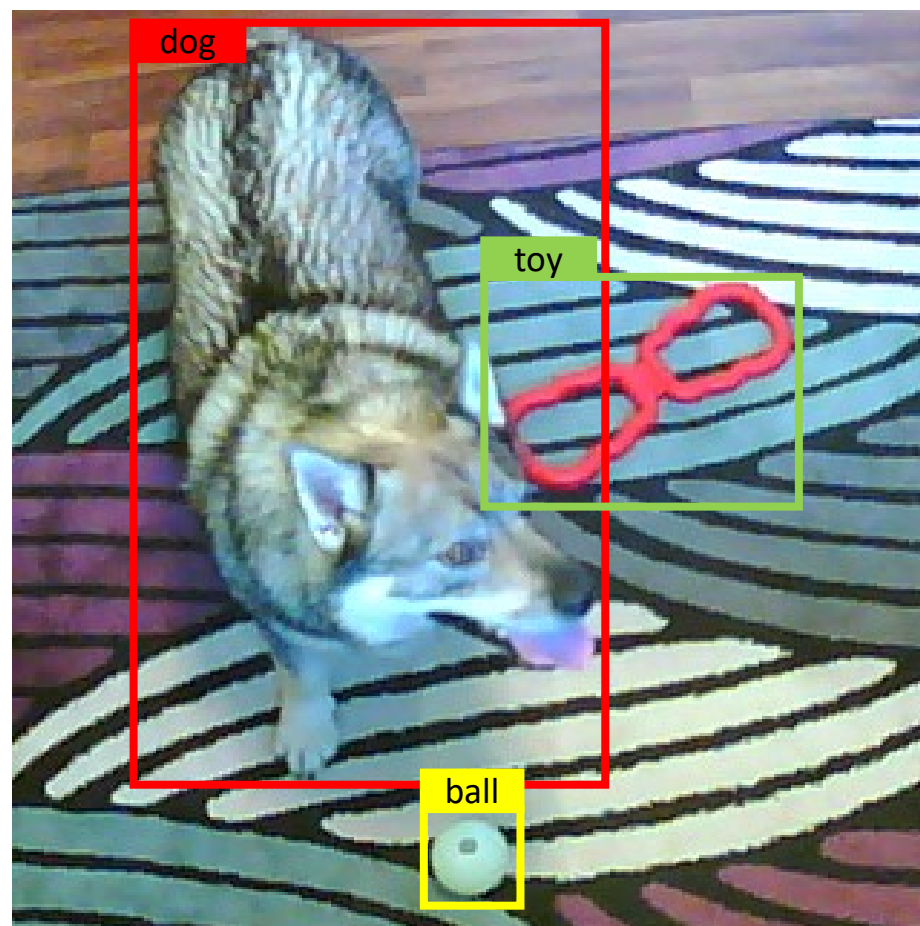


# Non-Maximum Suppression (NMS)



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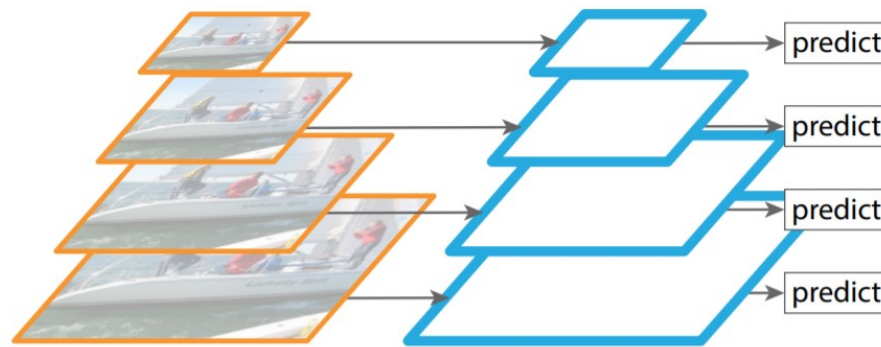




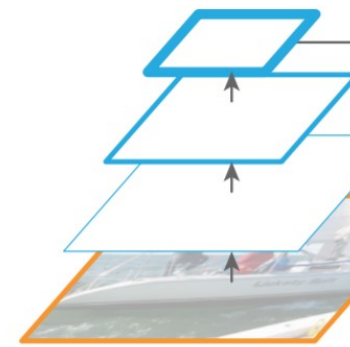
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# Feature Pyramid Network (FPN)



(a) Featurized image pyramid



(b) Single feature

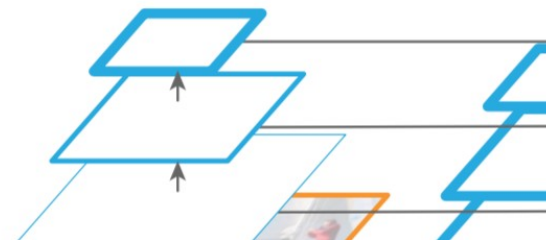
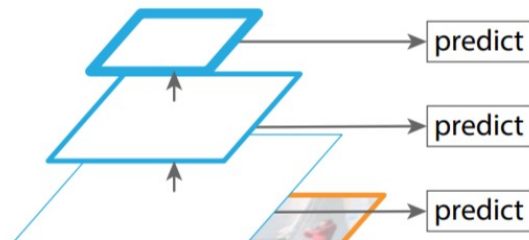


Image source: "Feature Pyramid Networks for Object Detection" (<https://arxiv.org/pdf/1612.03144.pdf>)