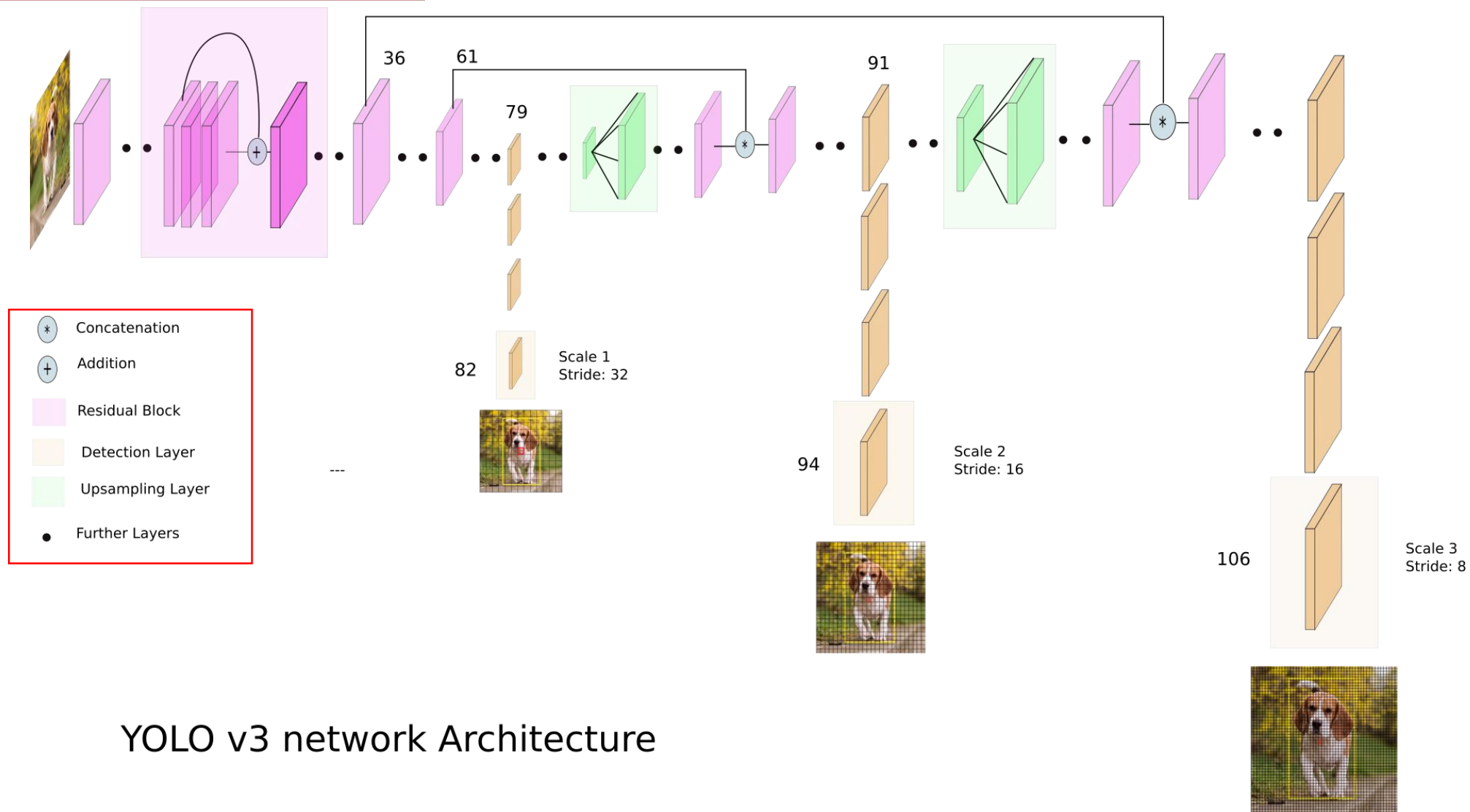


# YOLO v3

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(2019.4.4)

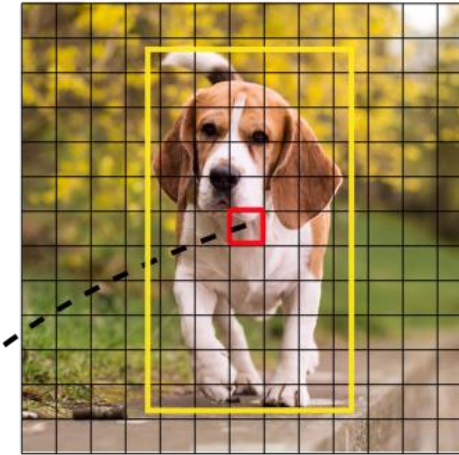
# 1. DarkNet 53



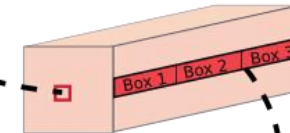
## 2. Predictions Across Scales

- YOLO v2에서는  $13 \times 13$  그리드 셀에서 각각 5개  
→  $13 \times 13 \times 5 = 845$  개
- v3는 3개의 Scale에서 각 3개의 anchor box  
→  $416 \times 416$  input size 이면, 10,647개
- SSD처럼 여러 Scale에서 prediction

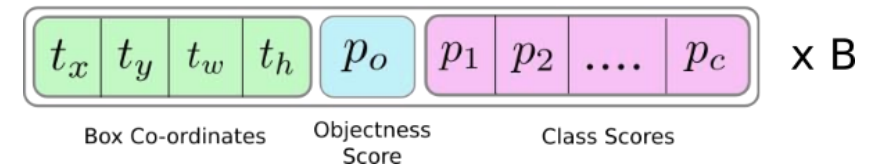
Image Grid. The Red Grid is responsible for detecting the dog



Prediction Feature Map



Attributes of a bounding box

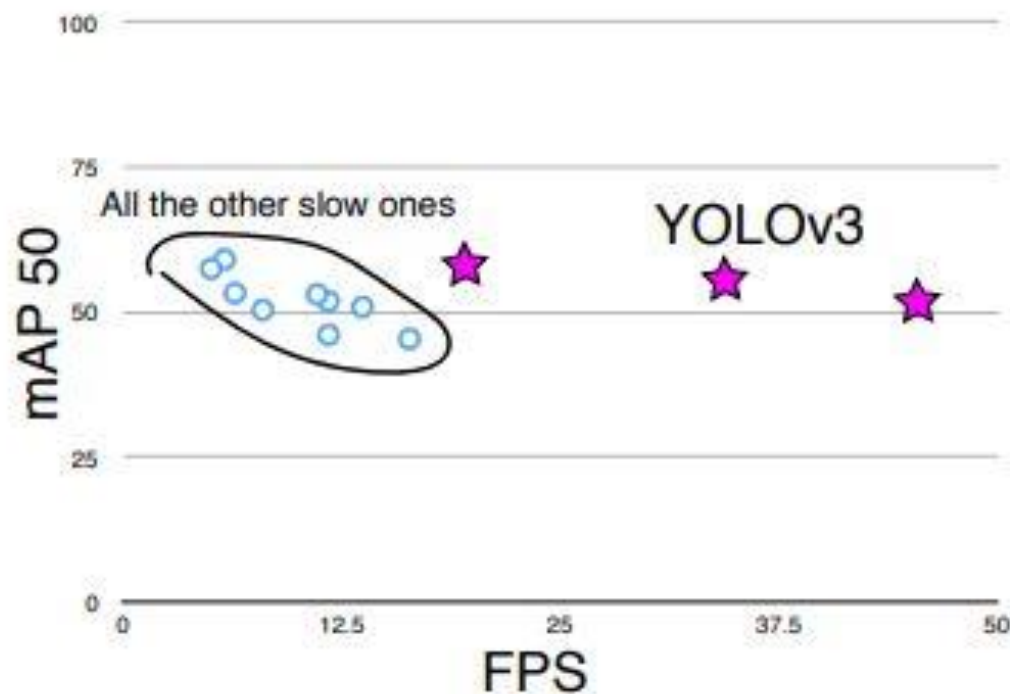
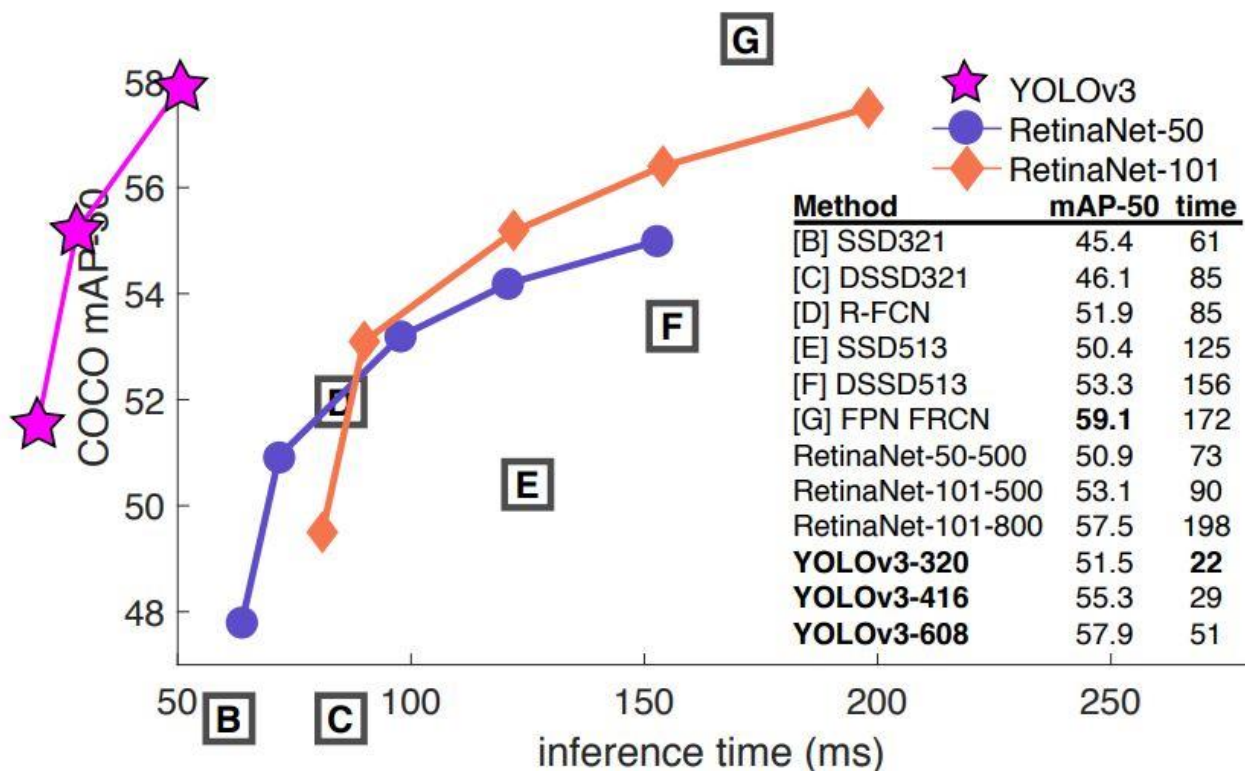


### 3. Class, Object confidence prediction

- Loss function에서 Class, Object confidence 톰으로 cross entropy error 사용
- > Class, Object confidence 를 예측할 때 logistic regression
- Softmax는 사람이면서 여자인 경우를 배제,
- 따라서 multi labels를 쓰는 COCO dataset에는 적절하지않음

## 4. Conclusion

- YOLO v3의 속도는 v2보다 느려졌지만 성능은 더 강력해짐



## 끝. 감사합니다.

- <https://towardsdatascience.com/yolo-v3-object-detection-53fb7d3bfe6b>
- <https://pjreddie.com/media/files/papers/YOLOv3.pdf>