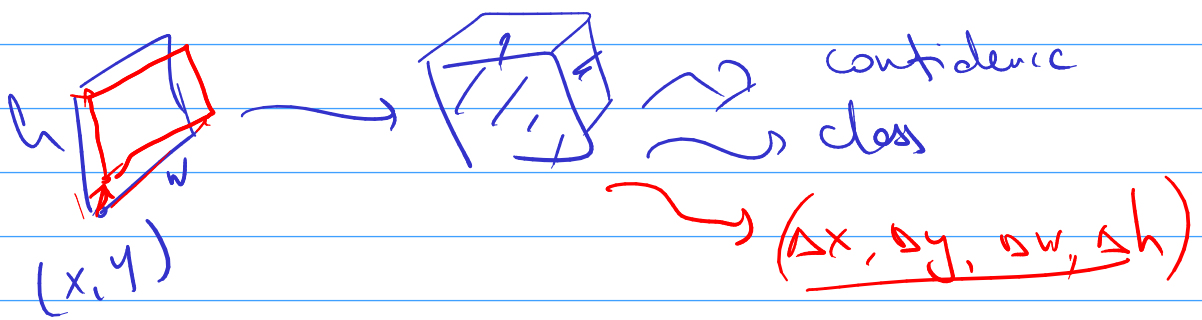
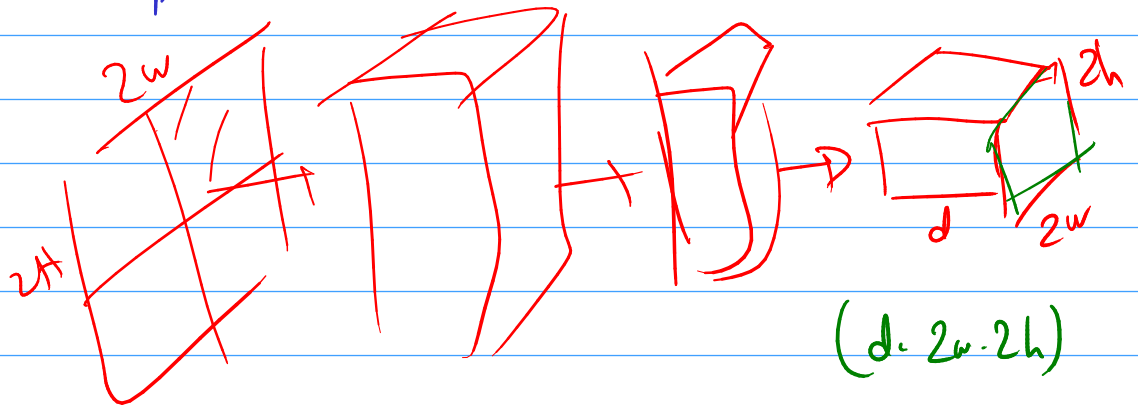
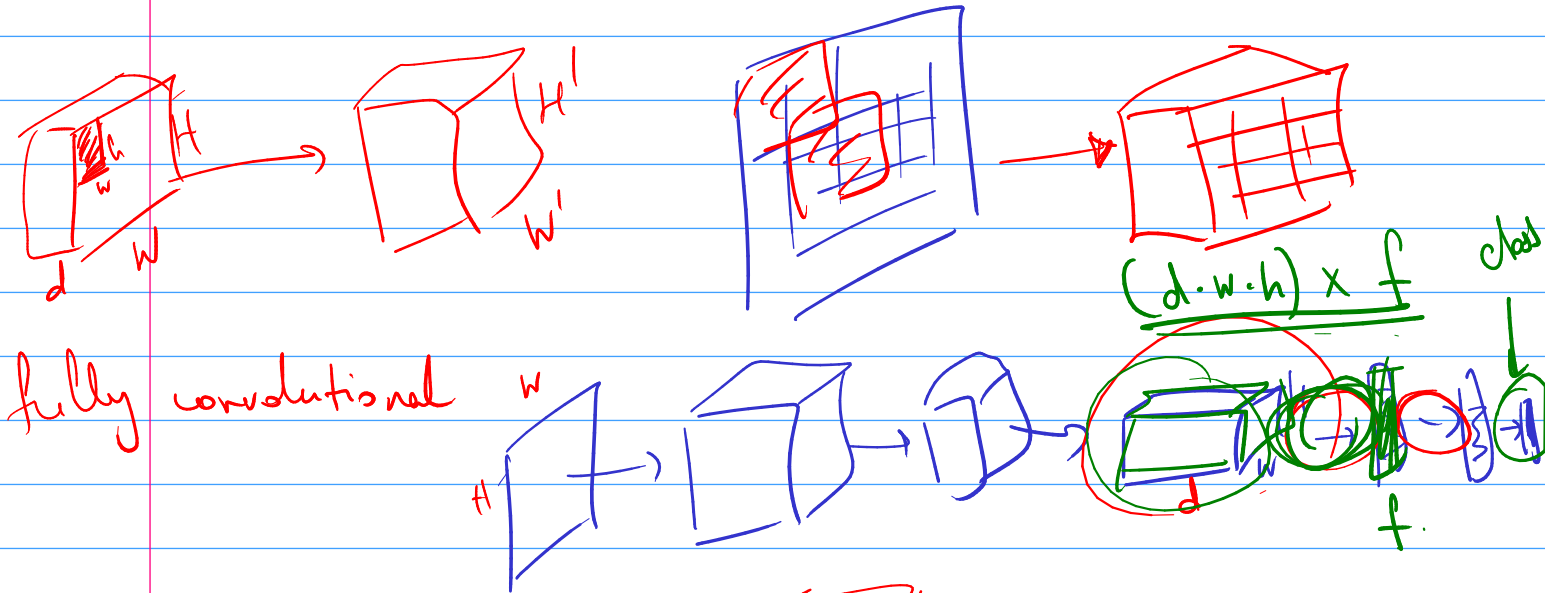
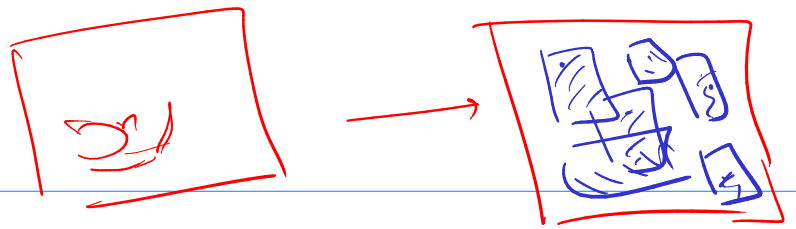
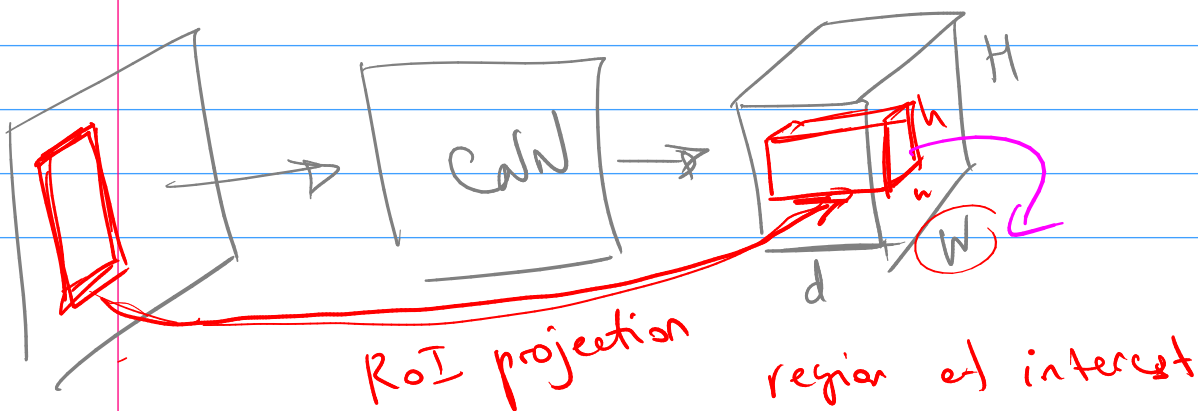


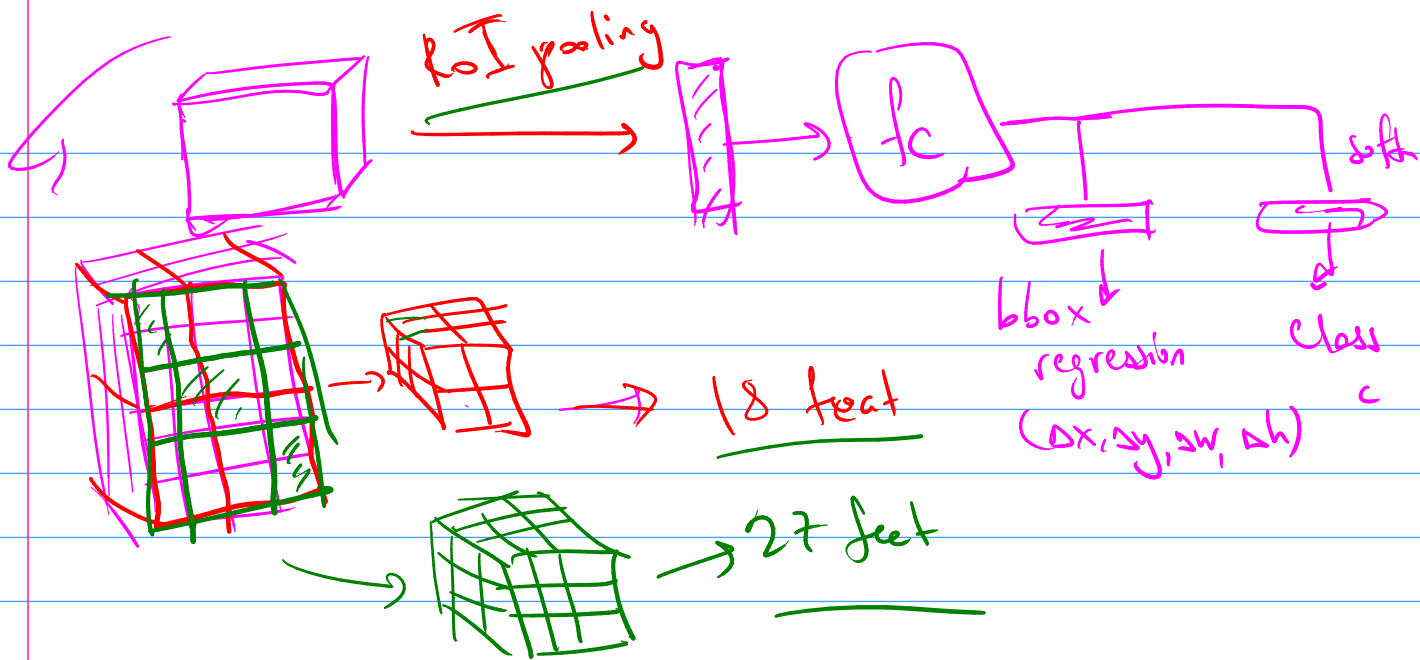
- selective search
- use CNNs to classify, rerank and fine-tune



Fast R-CNN

- [CNN] - [FC] - classes





Obj. det.

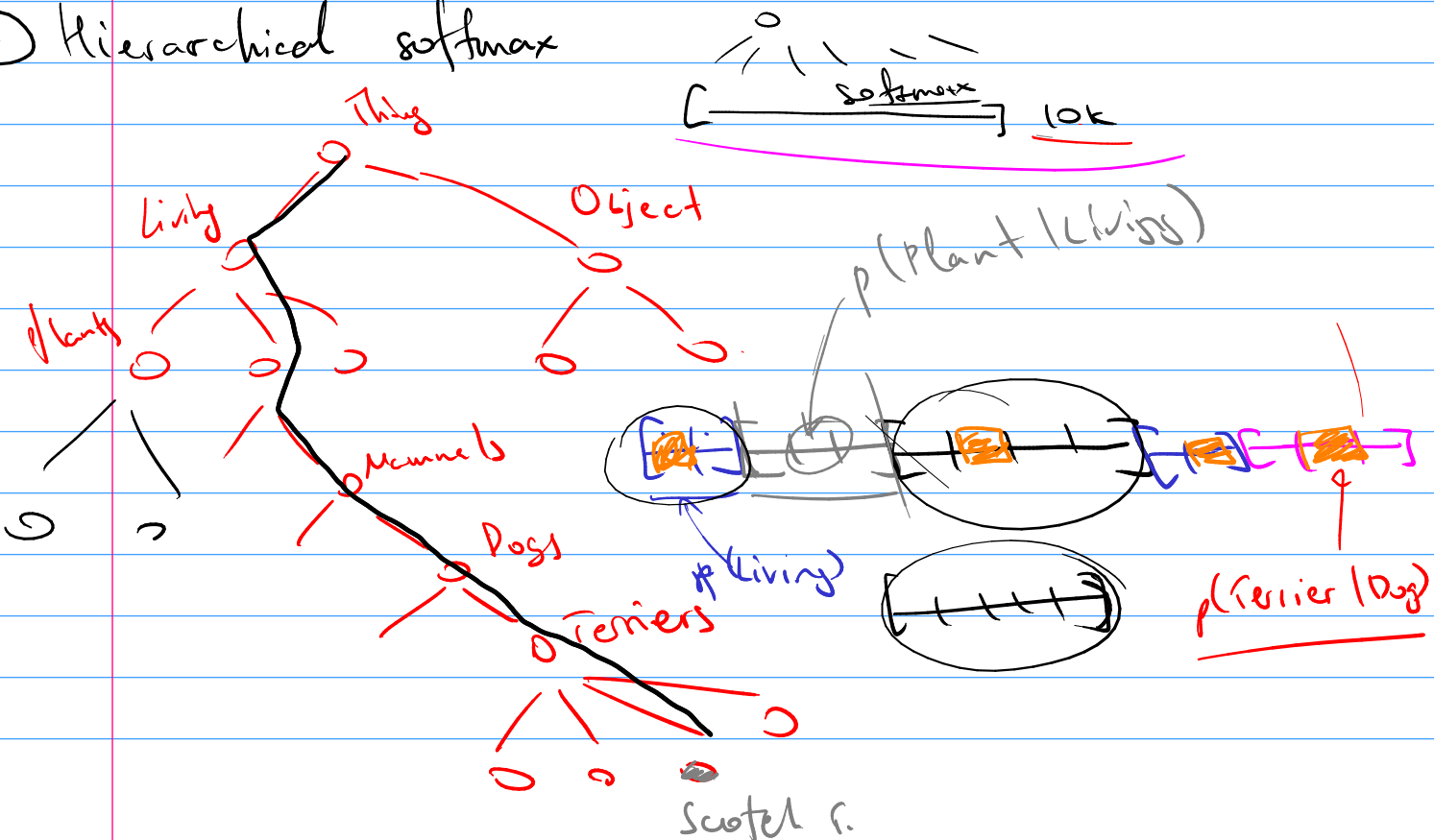
One-stage obj. det.

YOLO, SSD

two-stage obj. det.

Faster R-CNN

① Hierarchical softmax



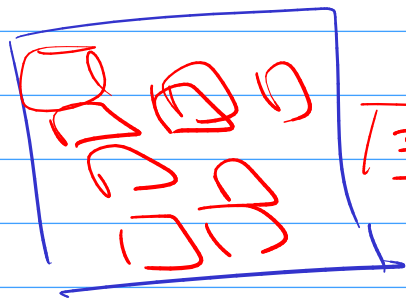
② Dilated conv



③ Feature Pyramid Networks

④ Focal loss

$$-\ln p$$



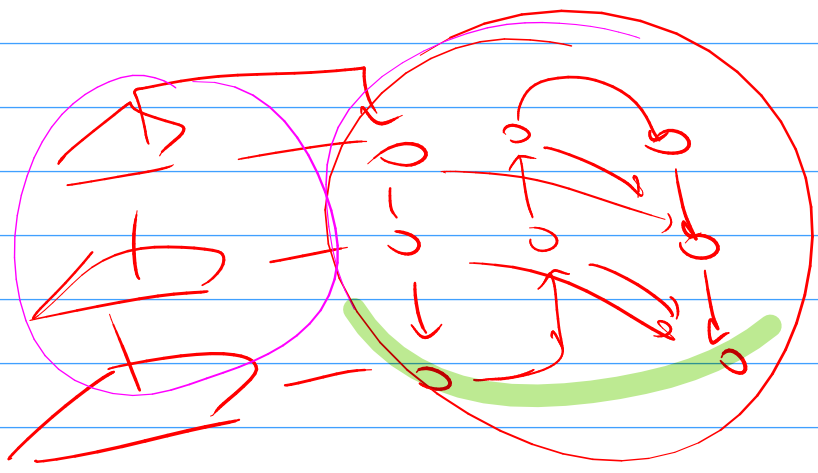
$$\frac{4000000}{3999995} \rightarrow \text{const.} \rightarrow 0$$

5 cat / 1
□ $0x, 0y$

⑤ Label smoothing



$p(c_1) \rightarrow 1$ $\xrightarrow{L.S.}$ $p(c_1) \rightarrow 0.9$



EfficientNet
NAS