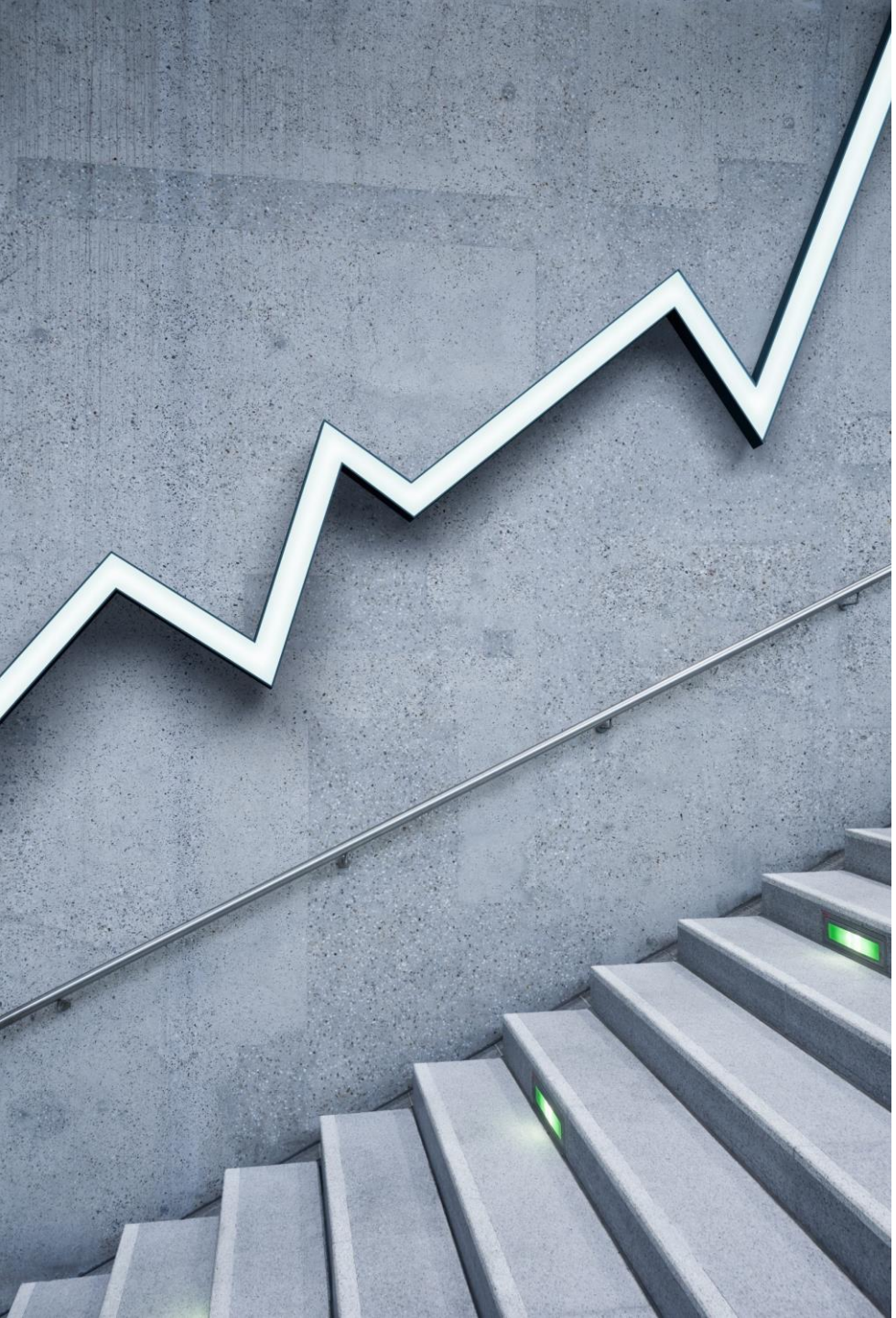
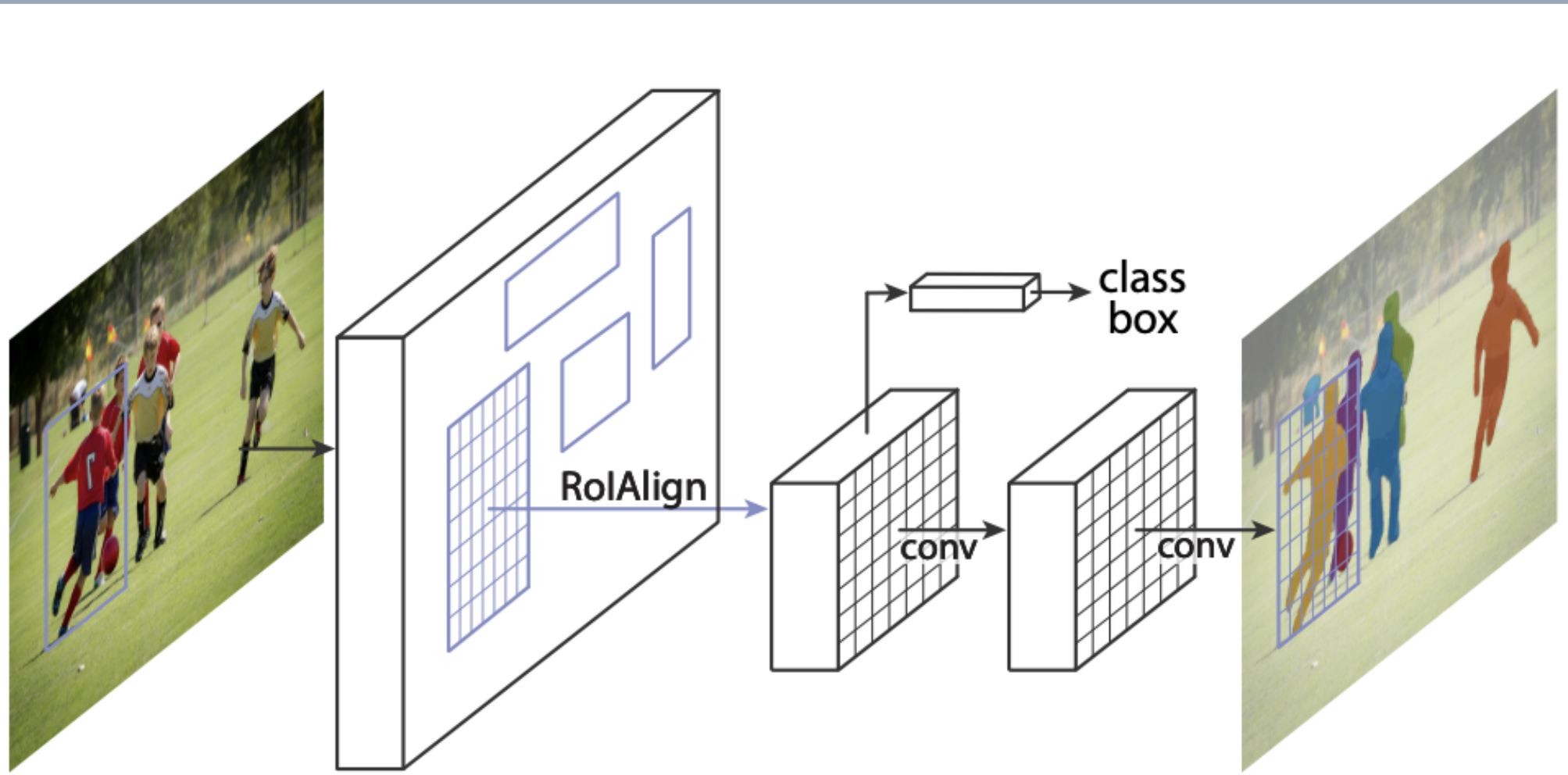
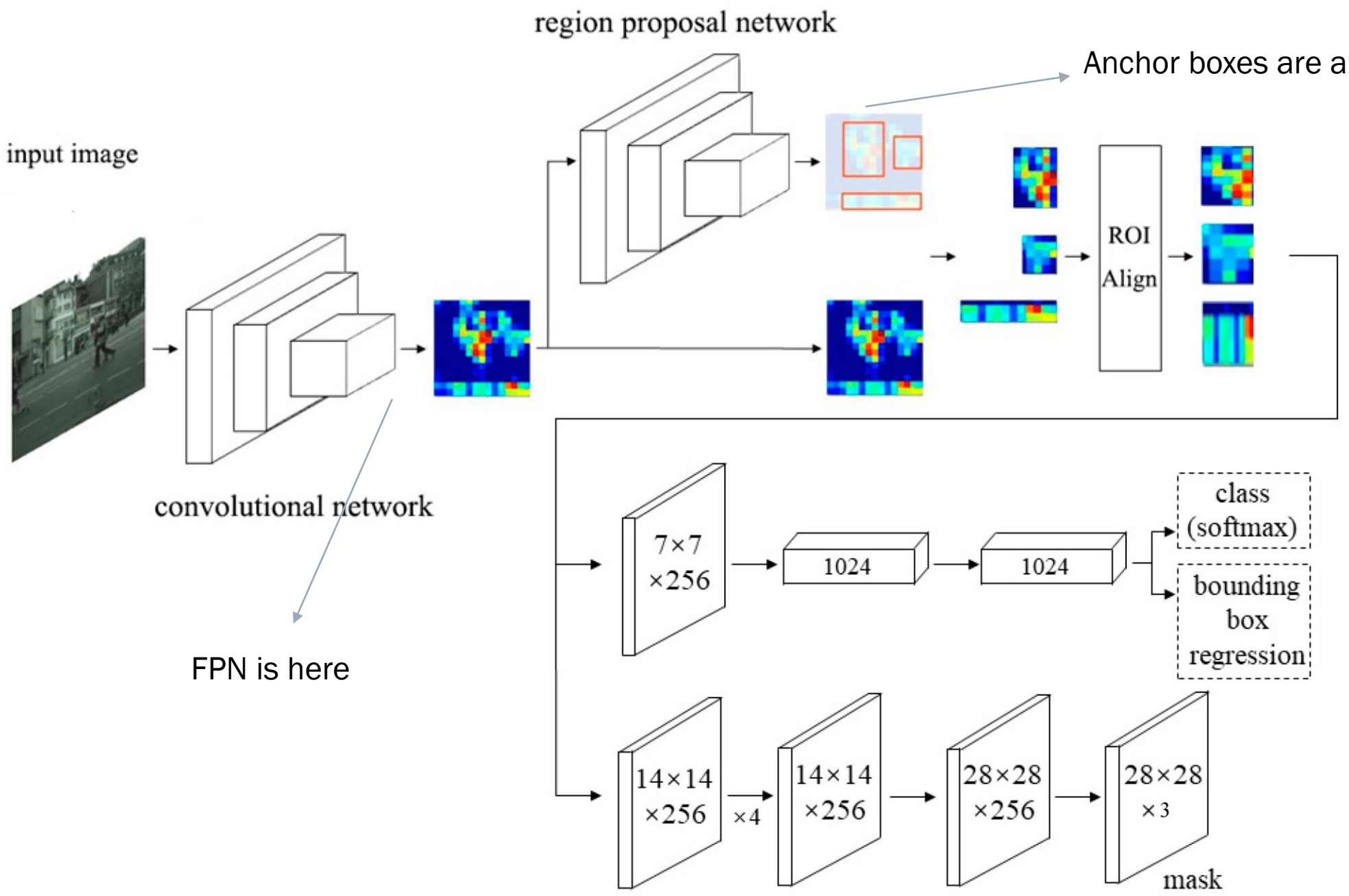


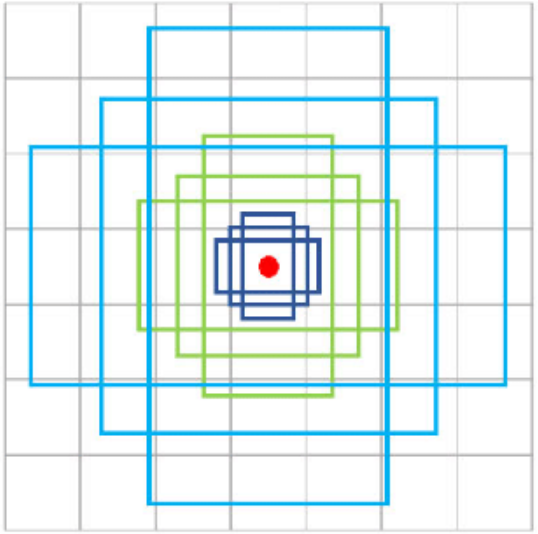
Fruit Picking Point Esimation – Mask Rcnn

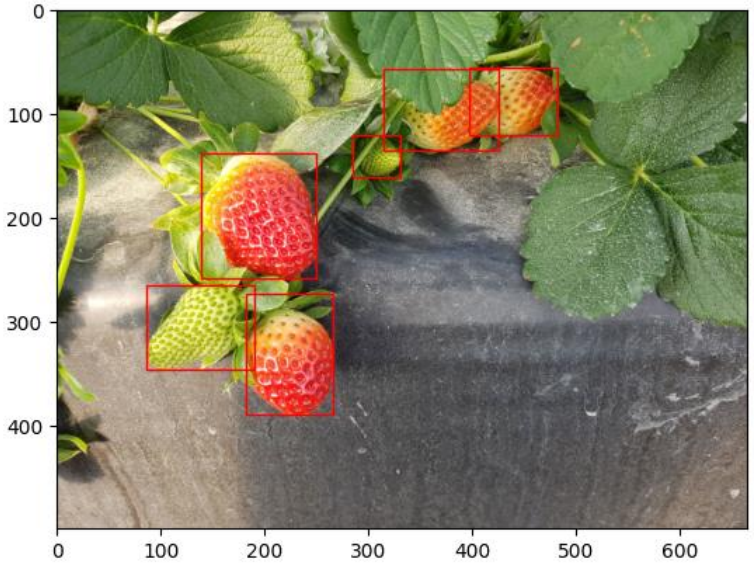
YAHYA MALEKI JOOBANI

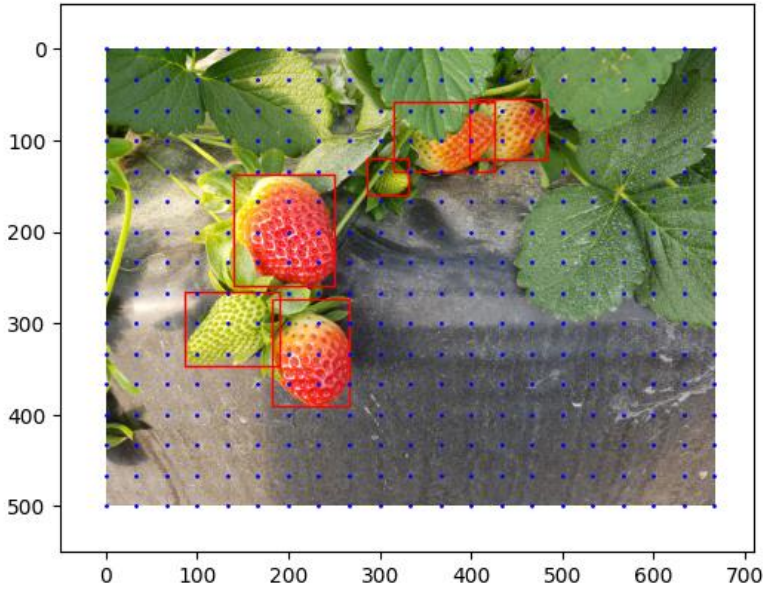

RoIAlign
class
box
conv
conv

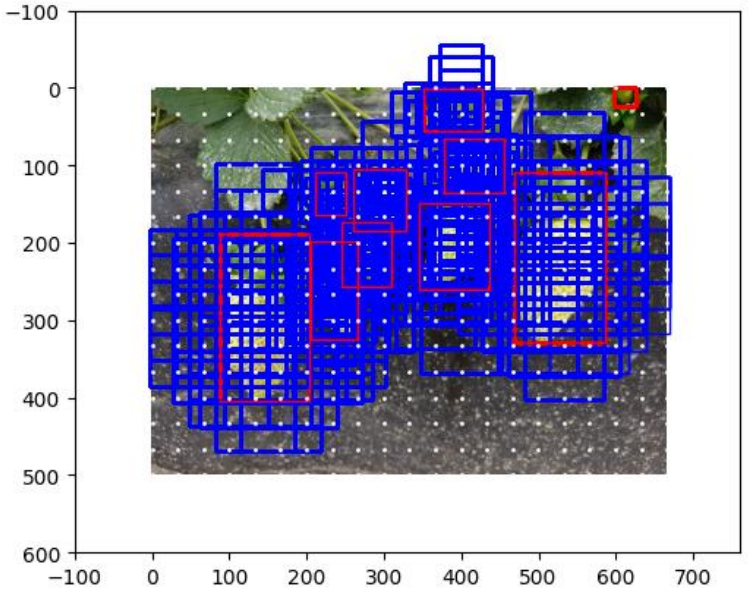

region proposal network
Anchor boxes are applied here
input image
ROI
Align
convolutional network
FPN is here
7×7
×256
1024
1024
class
(softmax)
bounding
box
regression
14×14
×256
×4
14×14
×256
28×28
×256
28×28
×3
mask

Anchor Boxes

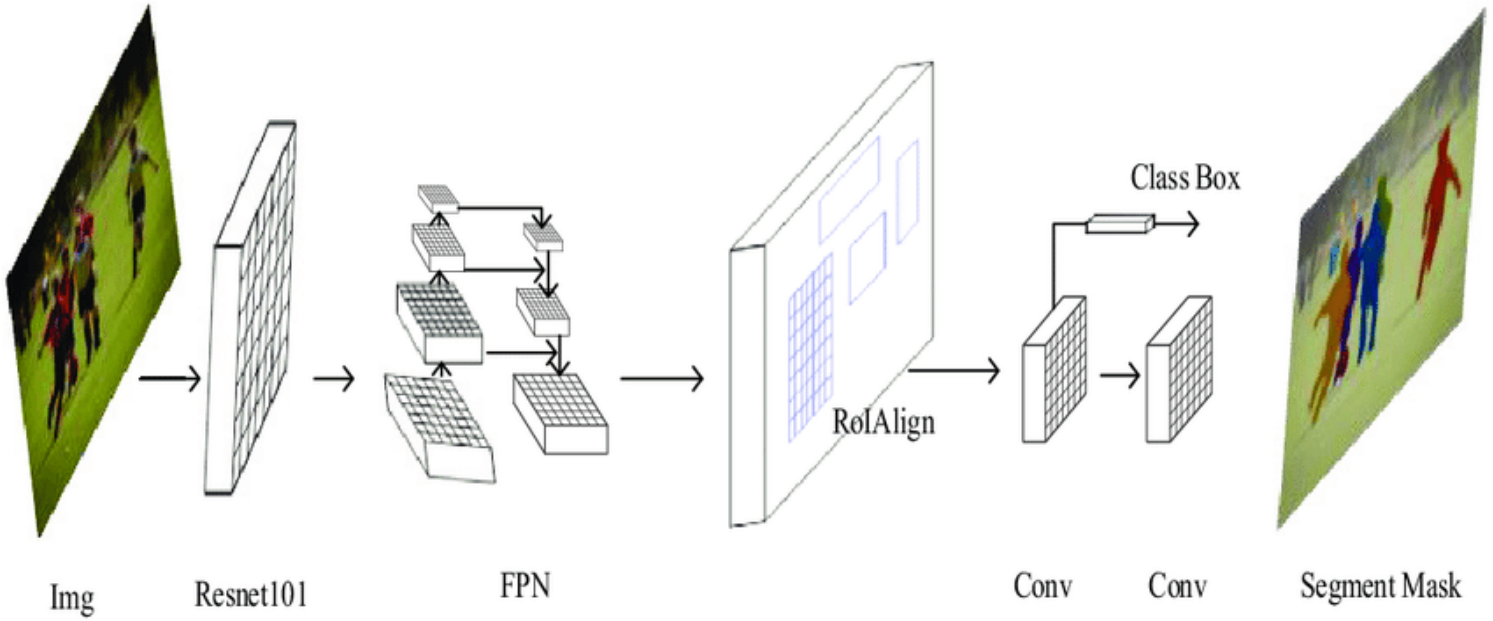


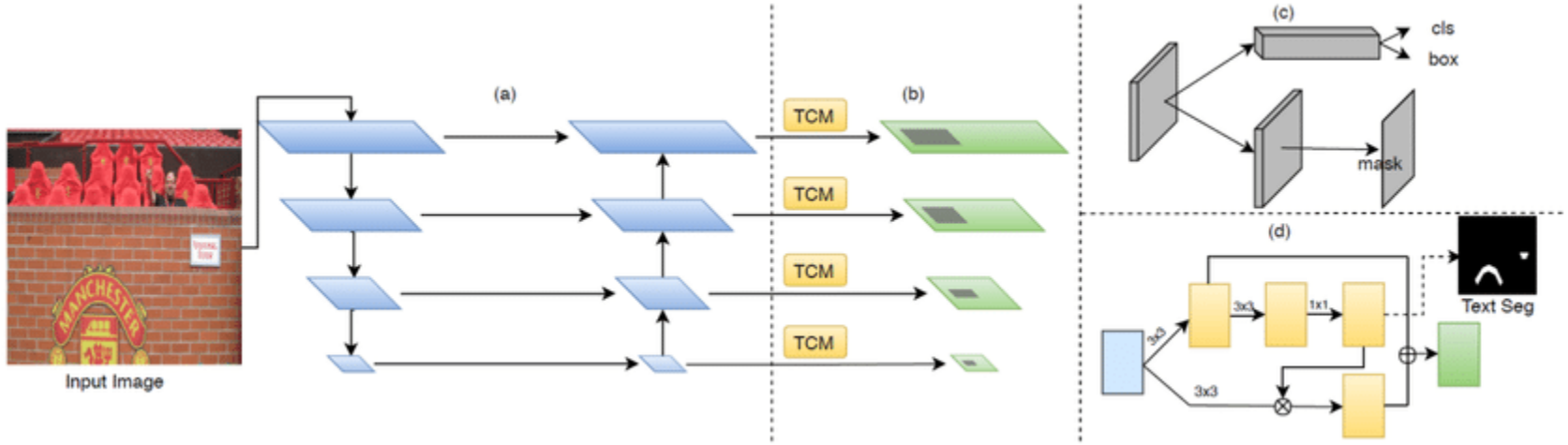


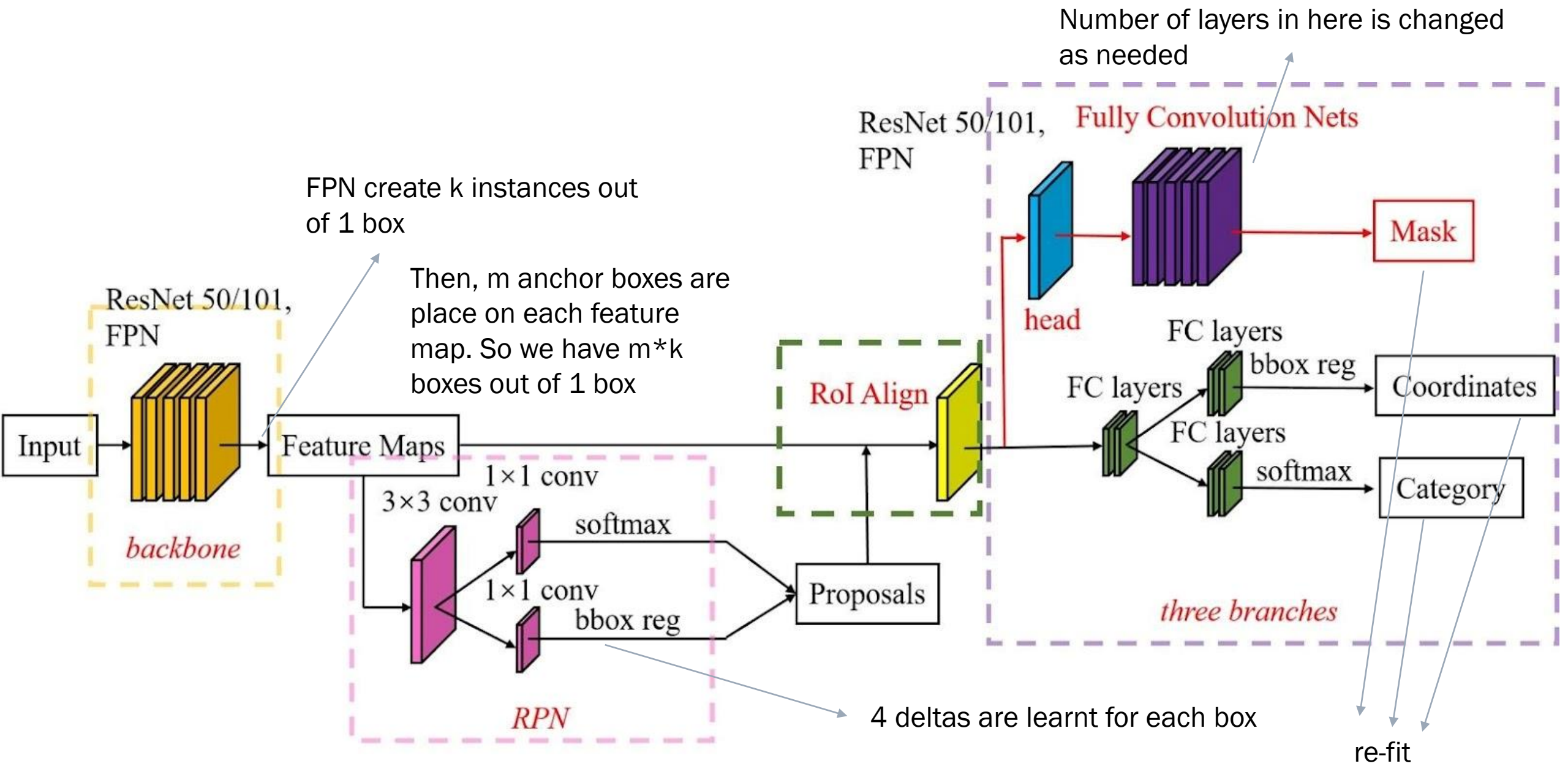


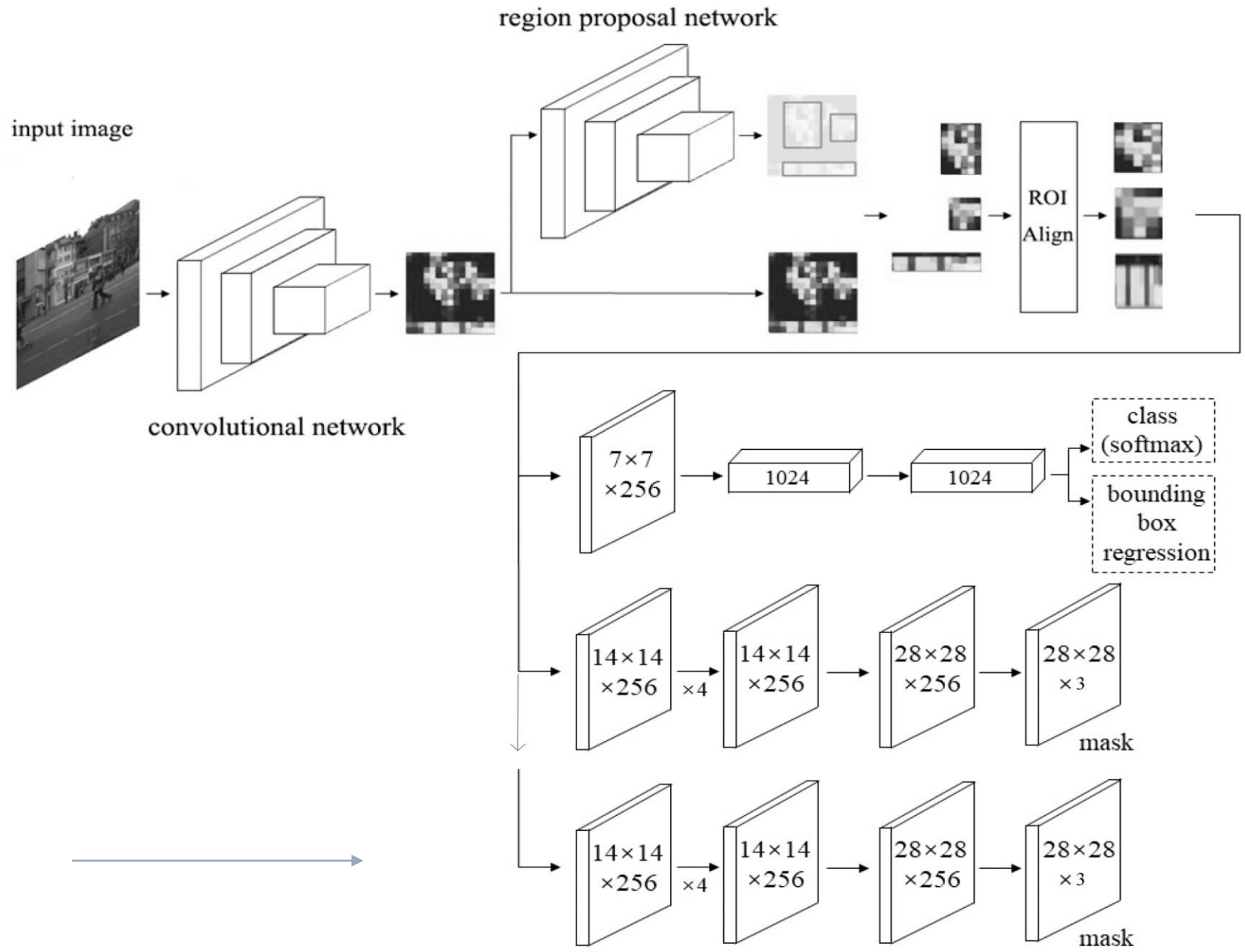


Feature Pyramid Network (FPN)



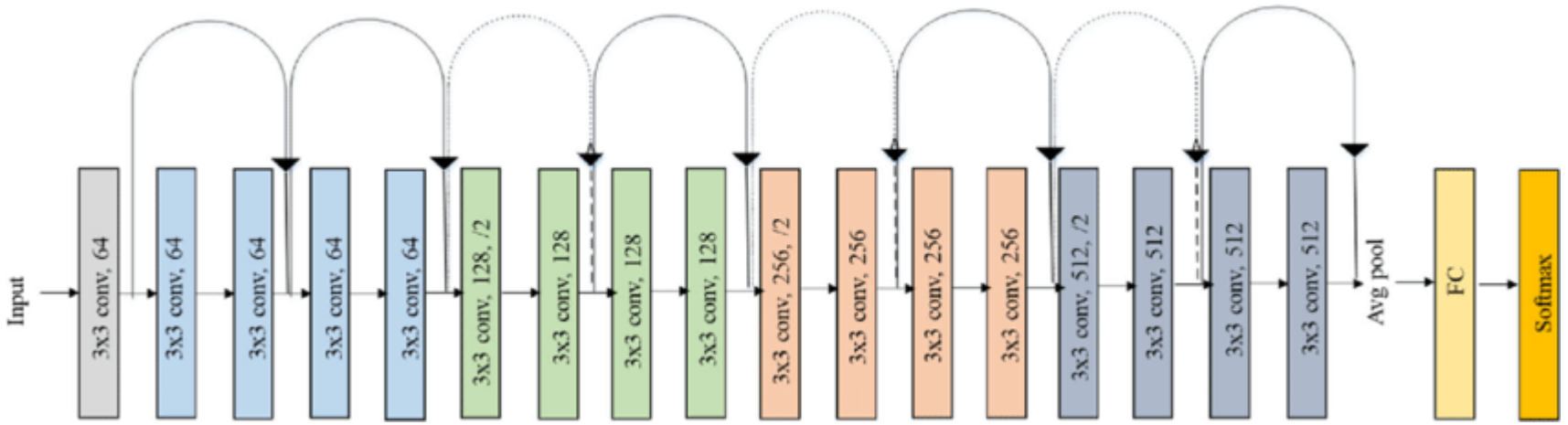



Number of layers in here is changed as needed
ResNet 50/101, FPN
Fully Convolution Nets
FPN create k instances out of 1 box
Then, m anchor boxes are place on each feature map. So we have m*k boxes out of 1 box
Mask
head
ResNet 50/101, FPN
FC layers
bbox reg
RoI Align
FC layers
Coordinates
FC layers
Input
Feature Maps
softmax
Category
1×1 conv
3×3 conv
backbone
softmax
1×1 conv
Proposals
bbox reg
three branches
RPN
4 deltas are learnt for each box
re-fit

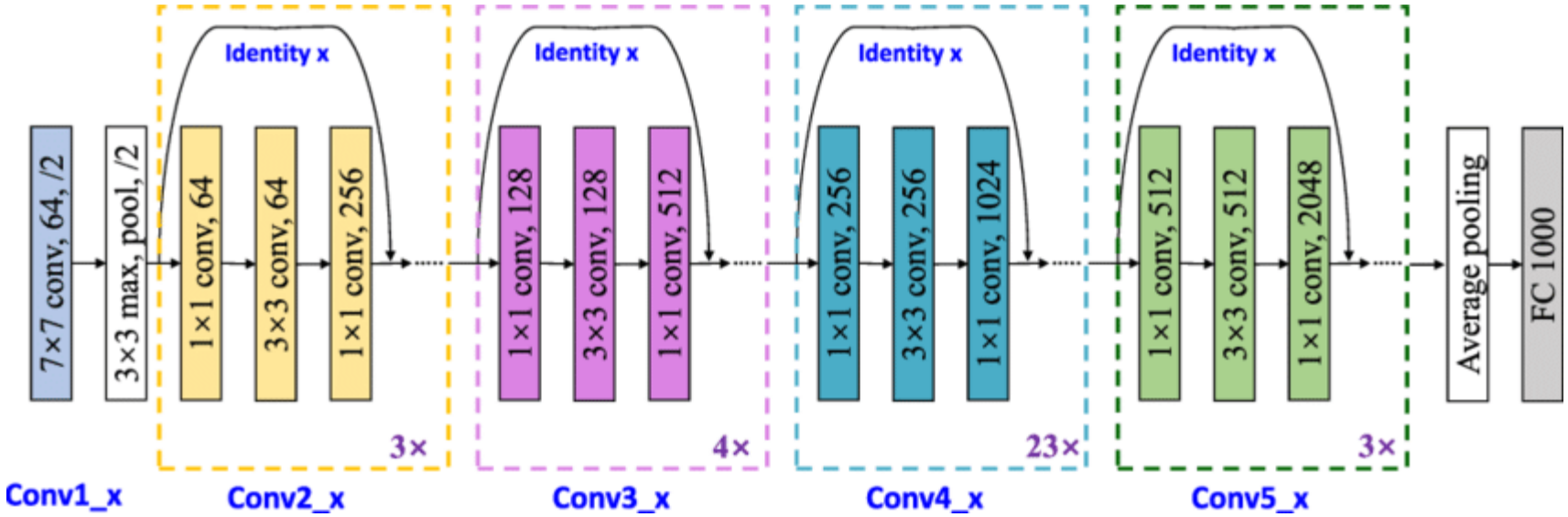


new head added!!

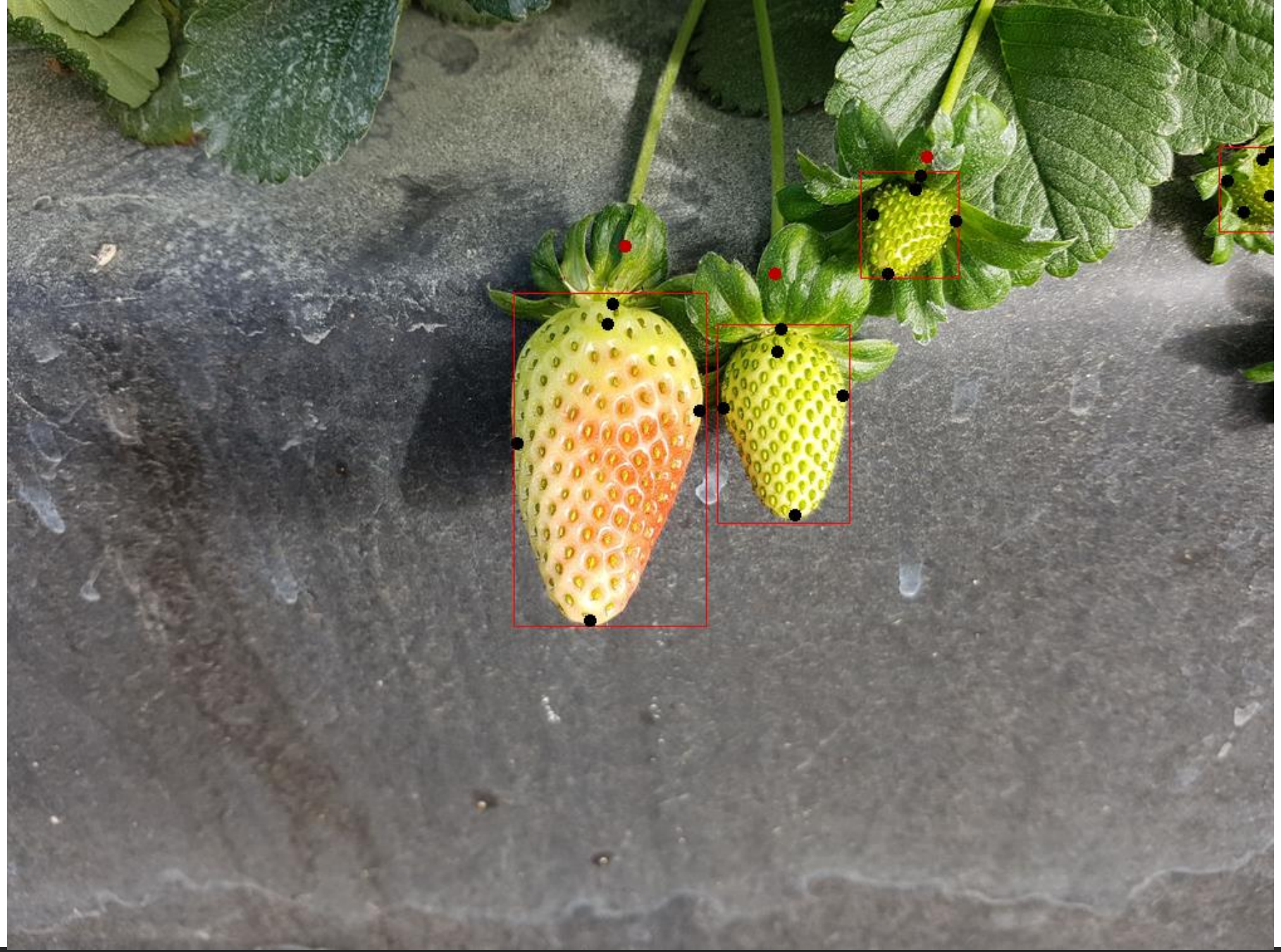
Backbones : resnet101 vs resnet18

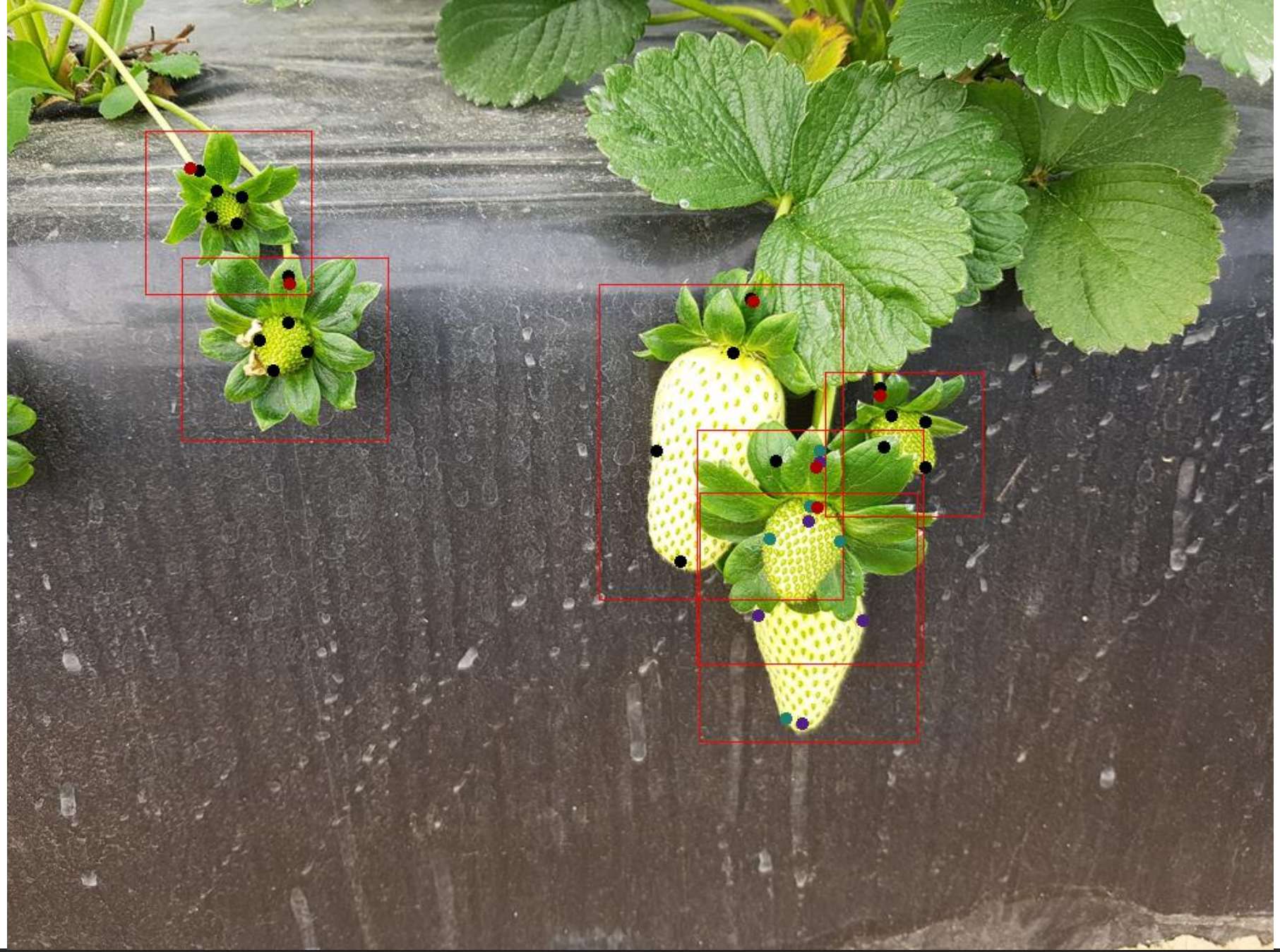


Resnet18:
24M total
parameters



Resnet101:
66M total
parameters





Thank You

... end ...