1. VGG16 backbone file is named “**VGG16\_sdd\_3\_exit**”, Mobilenet-v2 backbone file is named “**mobilenet\_ssd\_3 exit**”.
2. Prepare for the datasets

download the VOC2007 datasets file, it should include 5 file:

Annotations, ImageSets, JPEGImages, SegmentationClass, SegmentationObject.

Use “**create\_data\_lists.py**” to generate the .json file

the output should contain: TRAIN\_images.json, TRAIN\_objects.json, TEST\_images.json. TEST\_objects.json, label\_map.json

1. Train the model file by using “**train.py**” and using pretrain model file ” checkpoint\_ssdbest . pth ” to generate the training model file “**output/file\_name\_training\_time/ joint\_weigh t.pth**”
2. Use “**seperate\_model.py**” with “**model\_3\_sub.py**” to separate the joint\_weight.pth into 5 parts. “backbone0.pth”, “backbone1.pth”, “backbone2.pth”,”sub1.pth”,”sub2.pth”.
3. Use “transfer.py” to transfer the “.pth” file into “.onnx” file
4. After setting the environment of OpenVINO, go to the path” **openvino\_2021.4.752\depl oyment\_tools\model\_optimizer\mo.py**” and copy the “.onnx” file into this path , and execute the “**python mo.py** --input\_model file\_name.onnx” command in cmd window.
5. After this step , it will generate the “.xml”, ”.bin”, ”.map” file
6. copy the “.xml” file and “.bin ” file into the “different model version/weight” file and store the detected image into “test\_detect\_image” file .
7. Use “**detect\_NCS2\_3\_EXIT.py**” to detect image or use “**detect\_evaluate.py**” to evaluate the model