

FSM Internship Project 2022

INTP2022-ML-3

Computer Vision to detect defects in PCB

Week - 3 Report

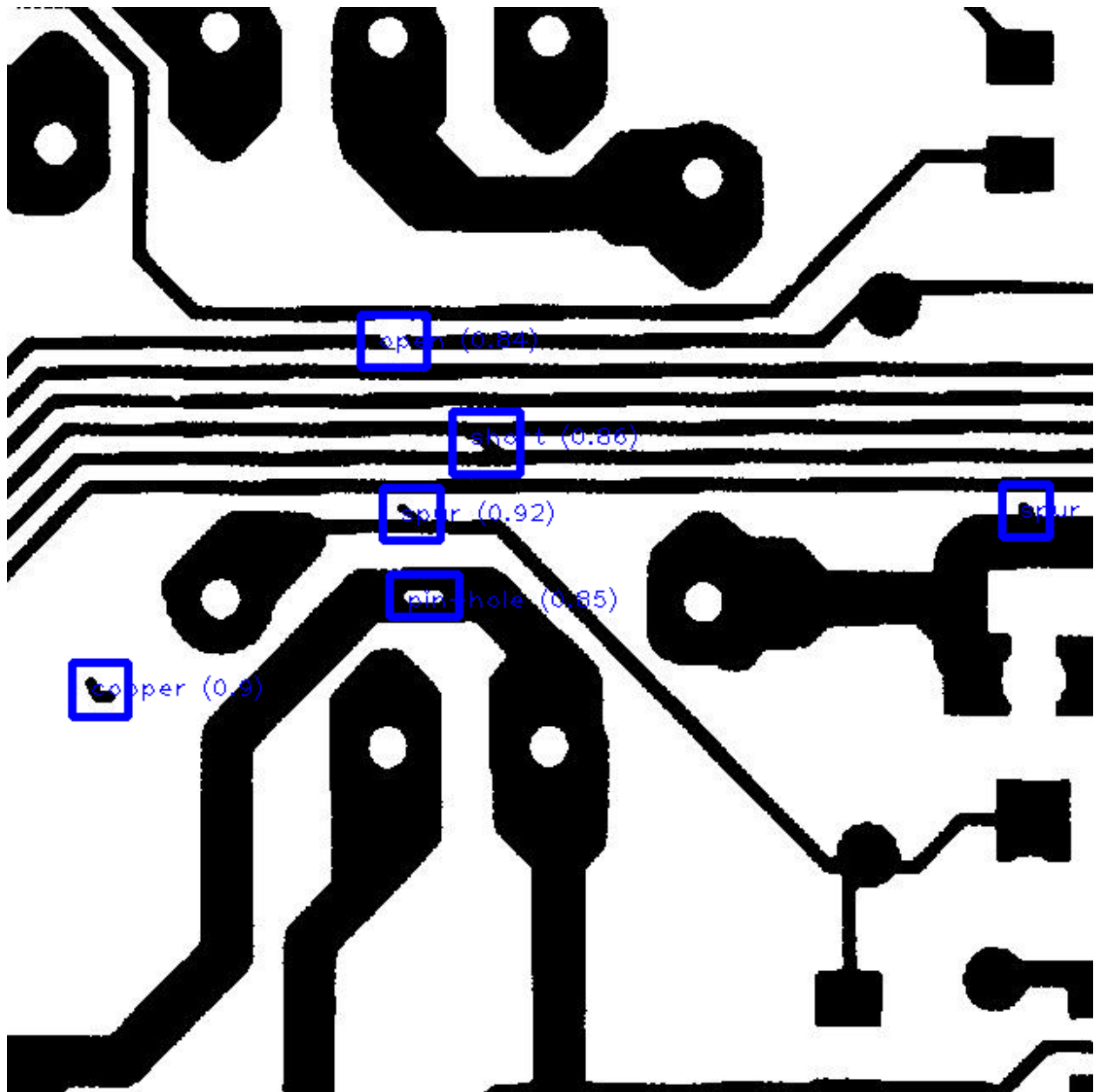
Progress made this week:

- Trained the PCB defect detection model using Efficientdet_lite4 algorithm using tensorflow lite
<https://colab.research.google.com/drive/1PflJmeMMS7ex8Q-R7tsJeglbVIYyxH2a>

Results :

```
{'AP': 0.7179705,  
'AP50': 0.9694887,  
'AP75': 0.8623749,  
'AP_/copper': 0.83615786,  
'AP_/mousebite': 0.69505036,  
'AP_/open': 0.67283374,  
'AP_/pin-hole': 0.78000414,  
'AP_/short': 0.62601155,  
'AP_/spur': 0.6977654,  
'API': 0.75,  
'APm': 0.7388278,  
'APs': 0.7249257,  
'ARI': 0.8,  
'ARm': 0.82125163,  
'ARmax1': 0.5949857,  
'ARmax10': 0.7985698,  
'ARmax100': 0.80921644,  
'ARs': 0.79992473}
```

Sample output :



- Trained the PCB defect detection model with `ssd_resnet101_v1_fpn_640x640_coco17_tpu-8` pretrained model from tensorflow model zoo using tensorflow

<https://colab.research.google.com/drive/1clhNVCwPcvTg9IVSMmtQ6NucsKIEJZuL#scrollTo=cncIR1EM1xzX>

Results : (Yet to be evaluated)

Sample output:

