影像處理與機器人視覺
Midtern

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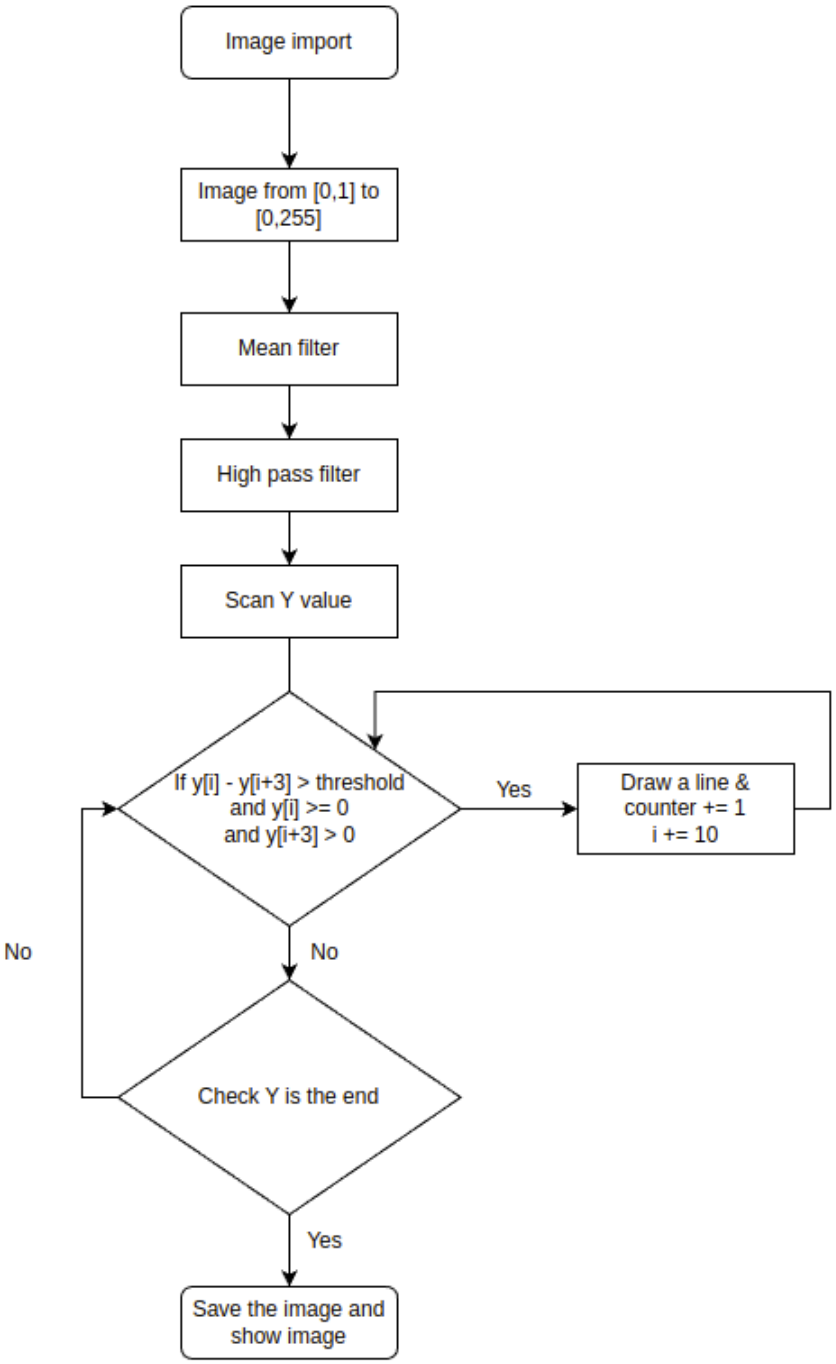
How to execute the cell counter:

$ python main.py --filepath={imagepath}

experience report:

flow chart:



Predict result:

file name	number of cells	predict numbers
20070907_160746_Cell_40.png	40	41
20070907_160814_Cell_40.png	40	39
20070907_161304_Cell_40.png	40	40
20070907_162448_Cell_40.png	40	39
20070907_162752_Cell_40.png	40	39
20070907_163631_Cell_28.png	28	28
20070907_164013_Cell_79.png	79	80
20070907_170041_Cell_114.png	114	114
20070907_171232_Wafer_100.png	100	101
20070907_171317_Wafer_100.png	100	102

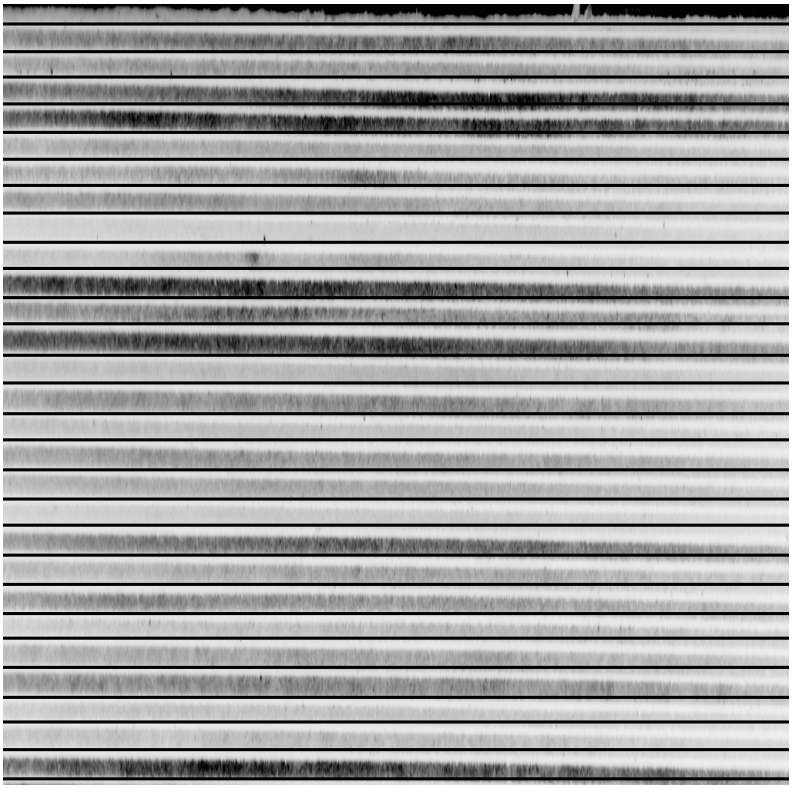


fig 1: Predict Result, 28 slides

Problems:

First, I met a problem: I don't use the mean filter to smooth the image, there is so much noise. When I do the high pass filter, the result is bad. And first I use the 3*3 kernel (fig 2). It's not efficient. So I fix the kernel (fig 3), to pass the Y value to check the cell boundary. Then I find out the edge of the original image after the mean filter is not clear, the high pass filter filters the edge. For this problem I add a contract function to enlarge the contract.

-1	-1	-1
-1	8	-1
-1	-1	-1

fig 2: Original high pass filter kernel

-4	-8	-4
0	0	0
4	8	4

fig 3: Fixed high pass filter kernel