Computer Vision: Lab 5 – OLED Printing Application

Prerequisites: Python basics, numpy, pandas, matplotlib, OpenCV, etc.

Task :

For this task, you need to analyze the image-processing kernels for an industrial application (Organic Light Emitting Diode (OLED)) Printing. The left side of the figure below shows an OLED sheet. After zooming into the details, we can find a couple of repetitive structures (OLEDs) that are aligned side by side. During fabrication, organic materials are injected into these OLED "bowls". In order to improve the quality and yield, accuracy of the detection center of each OLED and the processing time are very important.

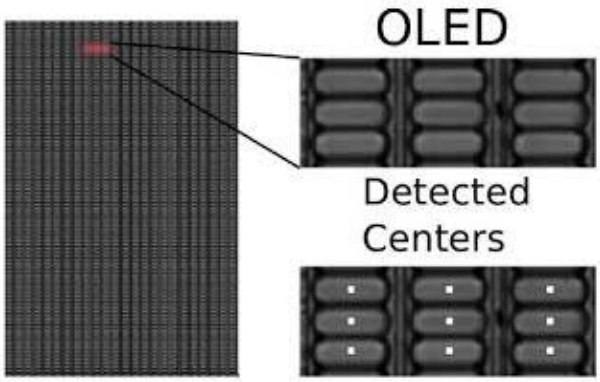
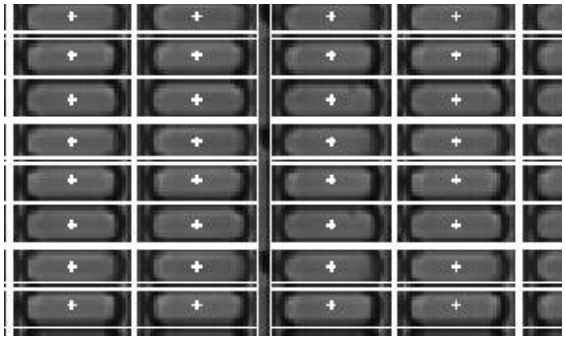


Fig.: Center-localization of OLED - Printing Application

A vision pipeline to accurately localize the OLED centers is to be developed, using traditional image processing and filtering/morphological operations. Also, create bounding boxes around the OLEDs (shown below) and provide the total counts of the detected centers.



Link to Sample Image: https://jklujaipur-my.sharepoint.com/:u:/g/personal/arpan_gupta_jklu_edu_in/EUCdMtfm7VtJnCbXV5wKvgEBByeC_OxwSdFwGIyp46WrUeg?e=Blyiru

Link to the high resolution image:
https://jklujaipur-my.sharepoint.com/:u:/g/personal/arpan_gupta_jklu_edu_in/Eevyo9L8M1JBozDqX404E2cBSlRdZT9zVMAtdc44A4udNg?e=rBtlh3