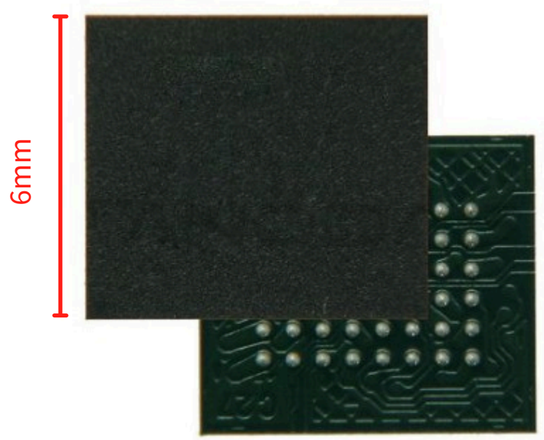
Prepared by group 2

數位彩色影像矩陣分析

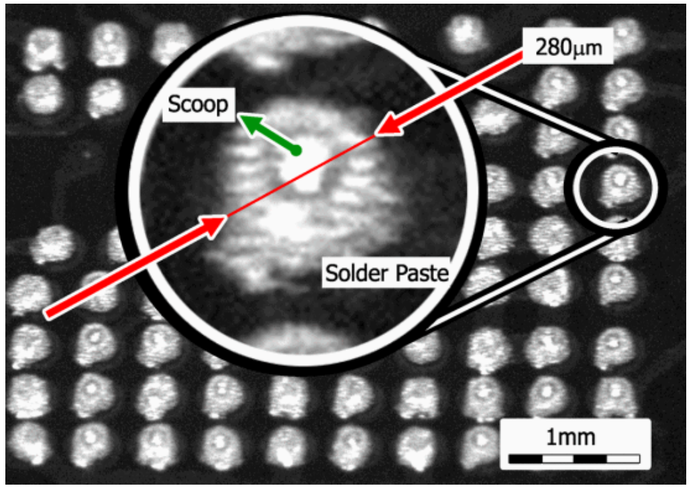
HW3

lecturers
張泓傑、蔡博恩
28 Oct, 2024

Lens for Solder Paste Inspection - Define ROI



mini BGA 48



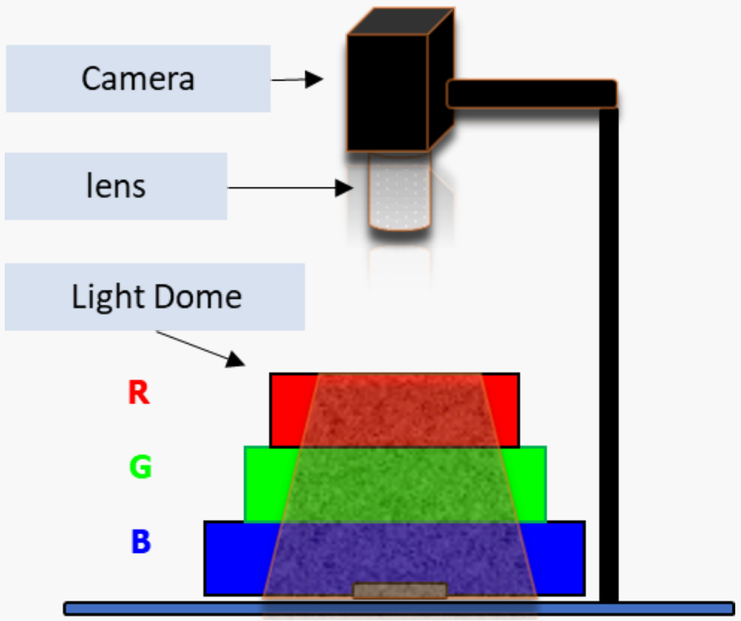
Solder Paste in BGA

FOV 8mm * 6mm

mini-Resolution 280um

C. Benedek, O. Krammer, M. Janoczki and L. Jakab, "Solder Paste Scooping Detection by Multilevel Visual Inspection of Printed Circuit Boards," in IEEE Transactions on Industrial Electronics, vol. 60, no. 6, pp. 2318-2331, June 2013, doi: 10.1109/TIE.2012.2193859.

Lens for Solder Paste Inspection - Define ROI

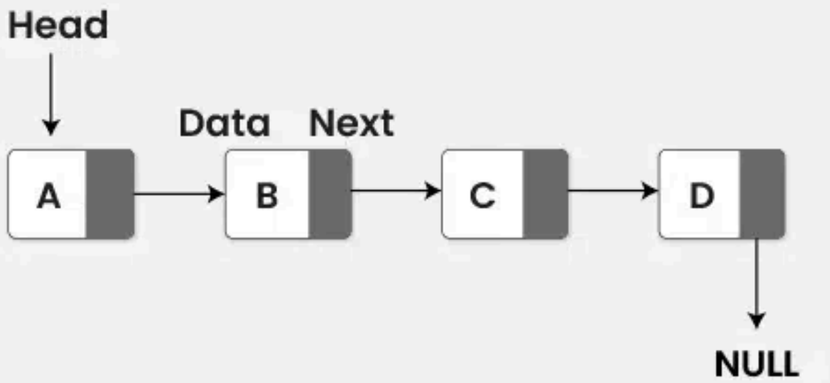


MK3520			
35mm			
2/3"			
25mm	WD	51mm	
	Opt. Mag	0.9	
	2/3"	9.8mm	7.3mm

- Resolution 2448 * 2048 px
- Pixel Size = 8.45mm / 2448 = 3.45um/pixel
- Resoptmini = 280um/pixel

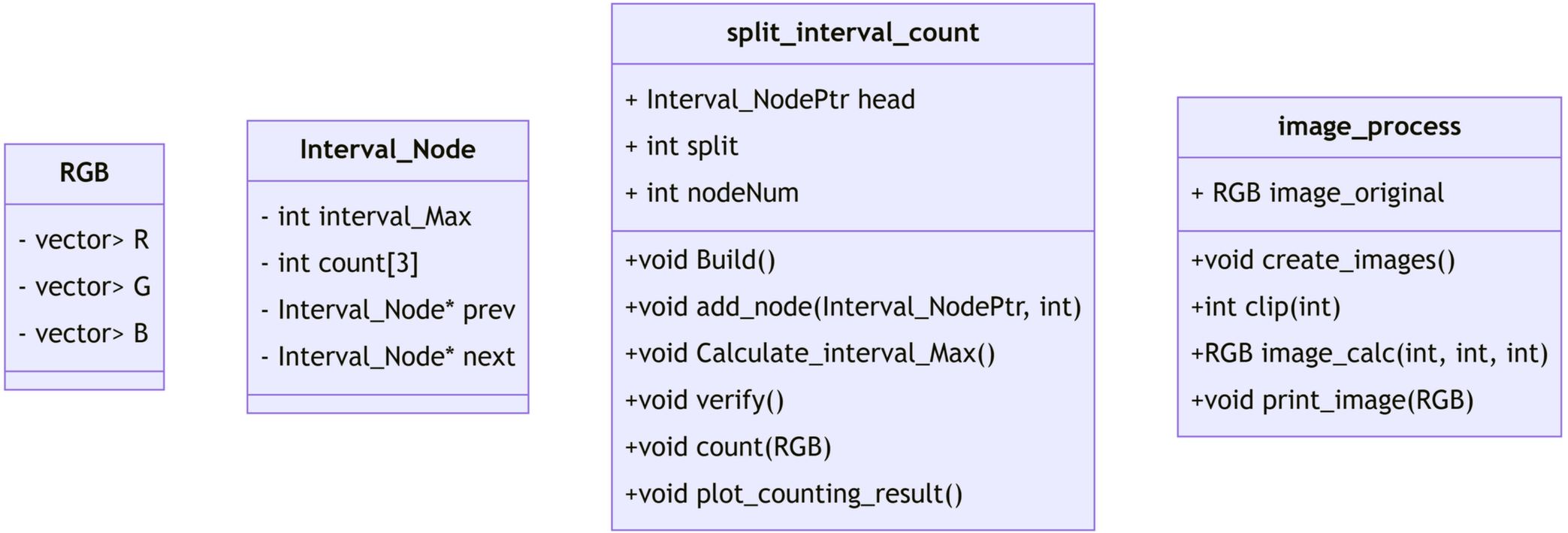
Data Structure

Linked List



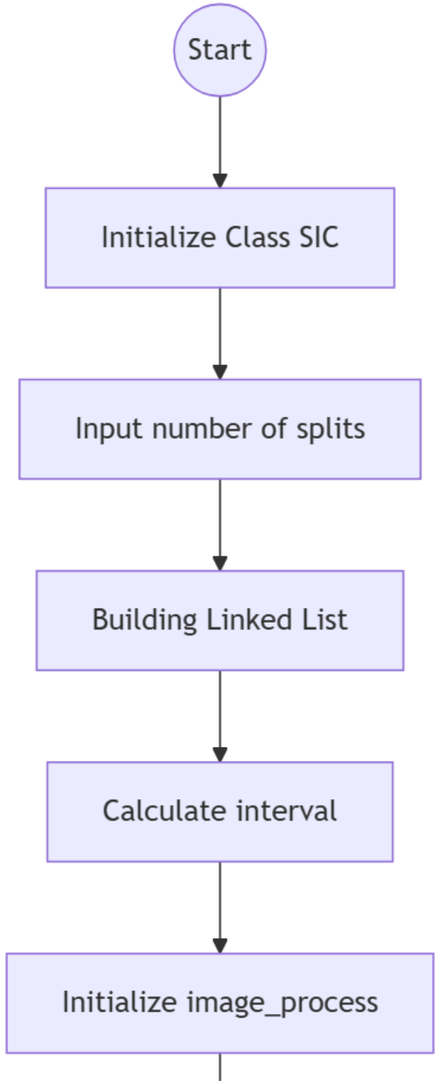

```
1  struct Interval_Node{
2      int interval_Max;
3      int count[3]; // R_count, G_count, B_count in RGB
4      Interval_Node* prev;
5      Interval_Node* next;
6  };
7
8  typedef Interval_Node* Interval_NodePtr;
```

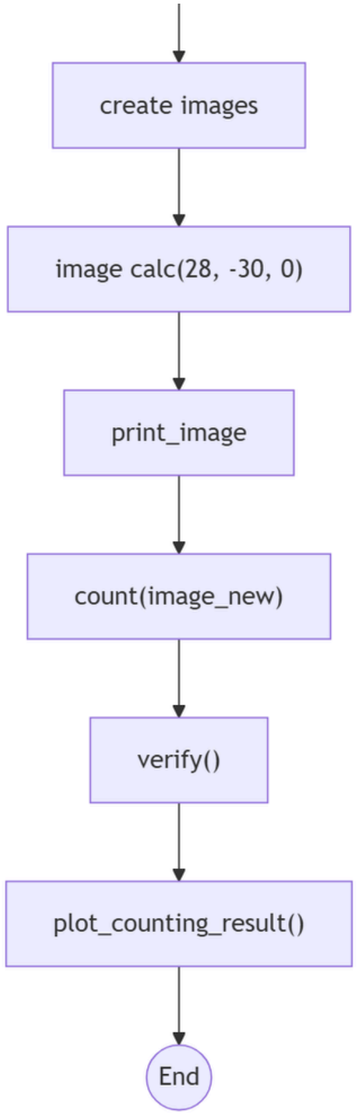
Code Structure

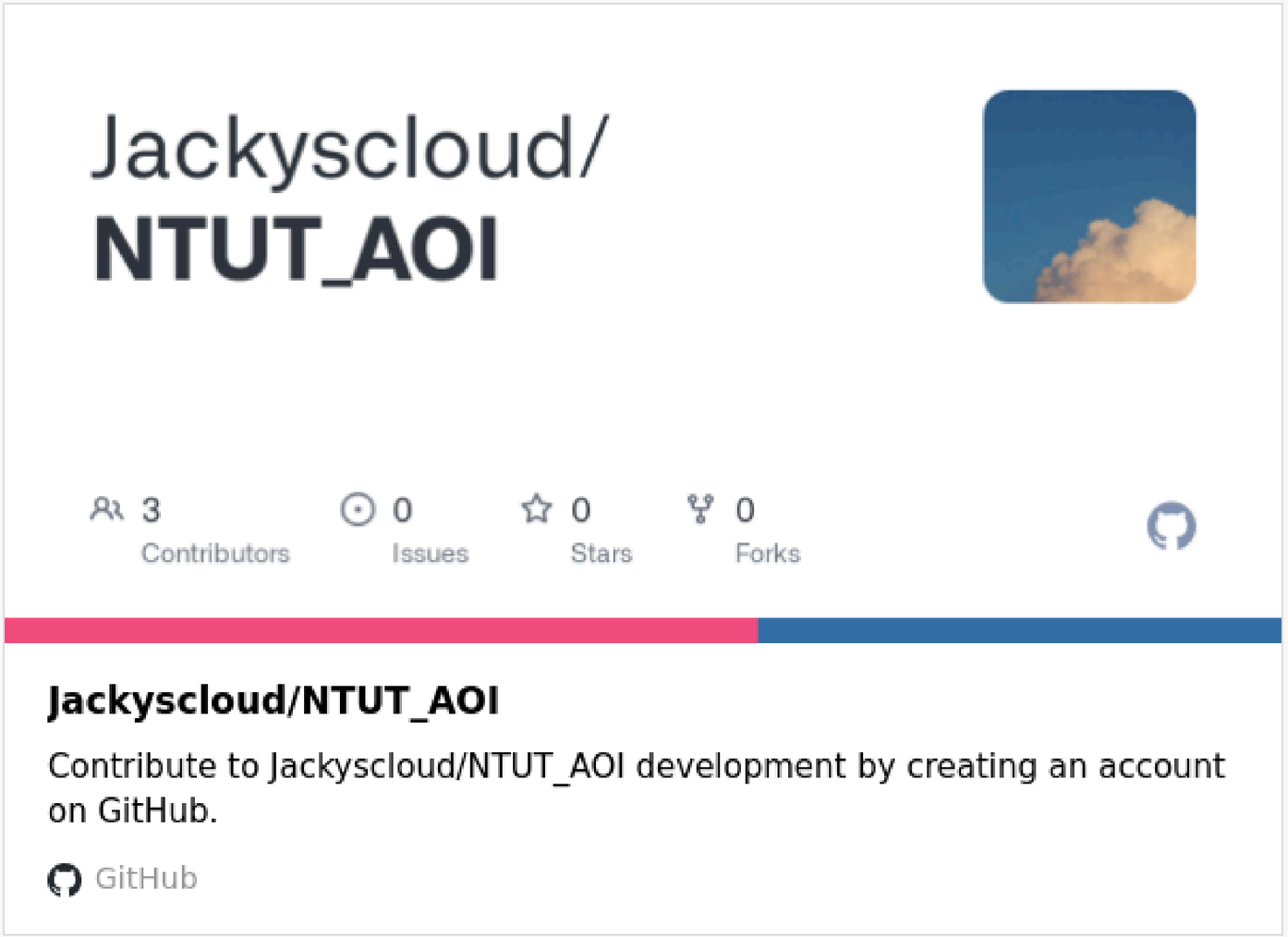


Flowchart

split_interval_count
+ Interval_NodePtr head + int split + int nodeNum
+void Build() +void add_node(Interval_NodePtr, int) +void Calculate_interval_Max() +void verify() +void count(RGB) +void plot_counting_result()

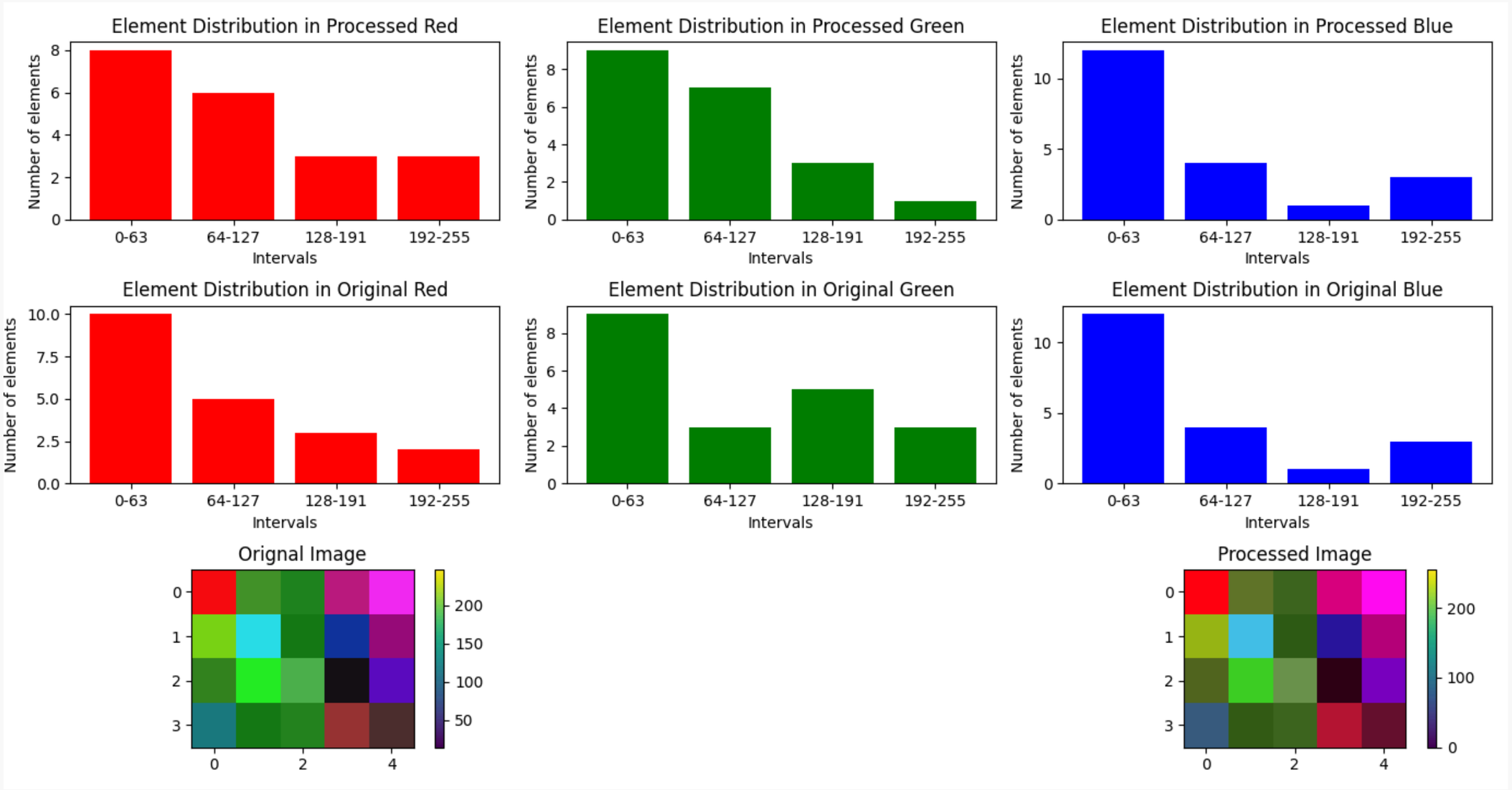





Jackyscloud/
NTUT_AOI
3
Contributors
0
Issues
0
Stars
0
Forks
Jackyscloud/NTUT_AOI
Contribute to Jackyscloud/NTUT_AOI development by creating an account on GitHub.
GitHub

Code

Result


Element Distribution in Processed Red
Number of elements
Intervals
0-63
64-127
128-191
192-255
Element Distribution in Processed Green
Element Distribution in Processed Blue
Element Distribution in Original Red
Element Distribution in Original Green
Element Distribution in Original Blue
Orignal Image
Processed Image

Prepared by group 2

Thanks for Listening

lecturers

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