**Computer Vision Report\_ HW1**

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* **Experiment name**

1. Gray image
2. Binary image (Threshold=100)
3. Intensity Image
4. Rotate image (turn right 90 degree)

* **Describe the main part of your method**
  1. **Gray image**: Place the three-channel BGR color of the picture into the scratchpad. Then it is substituted in grayscale formula (Gray = R \* 0.299 + G \* 0.587 + B \* 0.114).And then Gray respectively into the register BGR. Finally, the BGR of the scratchpad is returned to the original image
  2. **Binary image (Threshold=100)**: Directly read the grayscale value from the completed grayscale graph. If the gray level value is more than the threshold value (100), the gray scale value becomes 255.If the gray level value is less than the threshold value (100), the gray scale value becomes 0.Finally, put the processed value back in the resulting graph.
  3. **Intensity Image**: Much like the gray-scale approach. Just doIntensity = (B+G+R)/3.And put back the original BGR.
  4. **Rotate image (turn right 90 degree)**: Create a new window size. The original coordinate(x, y) change into the new map coordinates(y, width-x).Finally, the new map coordinates put into a new window. The map will turn right as 90 degrees.
* **Result image:**

**(1) I1:**

|  |  |
| --- | --- |
| **I1\_ Gray:** | **I1\_Binary:** |
| **C:\Users\方寧\AppData\Local\Microsoft\Windows\INetCache\Content.Word\I1_gray.jpg** | **C:\Users\方寧\AppData\Local\Microsoft\Windows\INetCache\Content.Word\I1_threshold.jpg** |
| **I1\_Intensity:** | **I1\_Rotate:** |
| **C:\Users\方寧\AppData\Local\Microsoft\Windows\INetCache\Content.Word\I1_Intensity.jpg** | **C:\Users\方寧\AppData\Local\Microsoft\Windows\INetCache\Content.Word\I1_Rotate.jpg** |

**(2) I2:**

|  |  |
| --- | --- |
| **I2\_ Gray:** | **I2\_Binary:** |
| **C:\Users\方寧\AppData\Local\Microsoft\Windows\INetCache\Content.Word\I2_gray.jpg** | **C:\Users\方寧\AppData\Local\Microsoft\Windows\INetCache\Content.Word\I2_threshold.jpg** |
| **I2\_Intensity:** | **I2\_Rotate:** |
|  | **C:\Users\方寧\AppData\Local\Microsoft\Windows\INetCache\Content.Word\I2_Rotate.jpg** |