



EIE4512 - Digital Image Processing

Tutorial-Matlab

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Agenda

Thresholding

Linear Transform

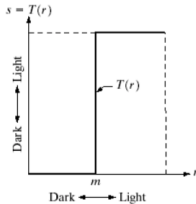
Logarithmic Transform

Power Law Transformations

Intensity Window

Thresholding

- ▶ Input values below threshold a_{th} set to a_0
- ▶ Input values above threshold a_{th} set to a_1

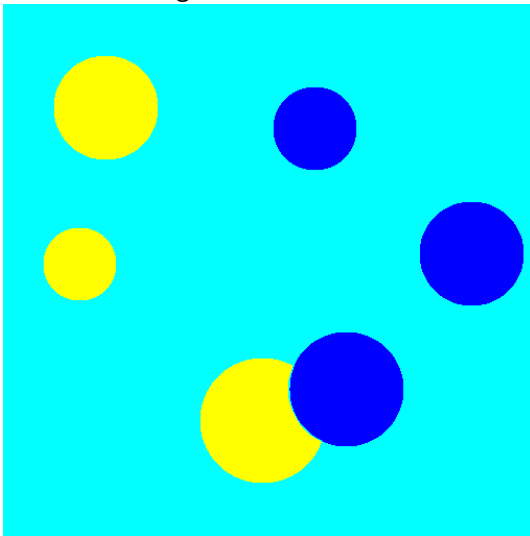


Thresholding



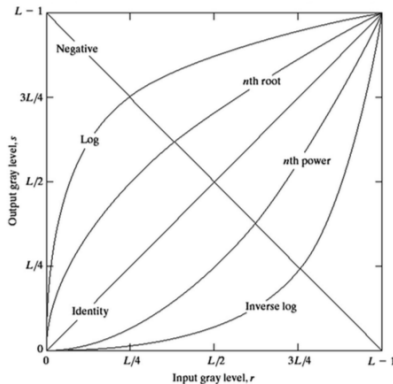
Thresholding

- Multilevel image thresholds



Transforms

- ▶ Linear
 - ▶ Negative/Identity
- ▶ Logarithmic
 - Log/Inverse log
- ▶ Power Law
 - ▶ n^{th} power / n^{th} root





Intensity Windowing

- To window an image in $[a, b]$ with max intensity M

$$f(p) = \begin{cases} 0 & \text{if } p < a \\ M \times \frac{p-a}{b-a} & \text{if } a \leq p \leq b \\ M & \text{if } p > b \end{cases}$$