**Keywords for Thresholding in Image Processing:**

**Thresholding:** A technique to convert a grayscale image into a binary image by setting a threshold value.

**Global Thresholding:** Using a single threshold value for the entire image to separate foreground from background.

**Adaptive Thresholding:** Using different threshold values for different regions of the image, suitable for images with varying lighting conditions.

**Otsu's Thresholding:** An automatic method to find the optimal threshold value based on the histogram of the image, maximizing the variance between the background and foreground.

**Binary Image:** An image consisting of only two pixel values, typically black and white.

**Threshold Value:** The specific pixel intensity value used to divide the image into foreground and background.

**Thresholding Methods:**

**Mean Thresholding:** Thresholding based on the mean pixel value of the image or a local region.

**Gaussian Thresholding:** Applying a Gaussian weighted sum of the neighboring pixels for thresholding.

**Median Thresholding:** Using the median value of the neighboring pixels for thresholding.

**Histogram:** A graphical representation of the distribution of pixel intensities in an image.

**Foreground:** The part of the image that is of interest, typically highlighted or retained after thresholding.

**Background:** The part of the image that is not of interest, typically suppressed or removed after thresholding.

**Binarization:** The process of converting an image into a binary format using thresholding.

**Noise Reduction:** Techniques applied before thresholding to reduce image noise and improve thresholding accuracy.

**Segmentation:** Dividing an image into meaningful regions, often using thresholding as a primary technique.

**Grayscale Image:** An image composed of varying shades of gray, used as the basis for thresholding.

**Thresholding Algorithm:** A specific method or formula used to determine the threshold value for image binarization.

**Contrast Enhancement:** Improving the contrast of an image to make the thresholding process more effective.

**Thresholding Application:** Practical uses of thresholding in fields like medical imaging, document processing, and object detection.

**Dynamic Thresholding:** Adjusting the threshold value dynamically based on the changing conditions within different regions of the image.

**Multi-level Thresholding:** Using multiple threshold values to segment an image into more than two regions.

**Thresholding Sensitivity:** The responsiveness of the thresholding process to changes in the threshold value, affecting the segmentation outcome.