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Materia: Visión Artificial

Tarea: Practica 5

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Practica 5:

Objetivo:

Umbrales.
Objetivo: Utilizar las funciones de umbrales para la recuperación de información.
Threshold1 binary, b_inv, Trunc, To Zero, Tz_inv, Mean, Gaus, Otsu.

Codigo:

```
import cv2

import numpy as np



# Cargar imagen

img = cv2.imread('samus.png')

gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)



# Umbrales fijos

_, th_binary = cv2.threshold(gray, 127, 255, cv2.THRESH_BINARY)

_, th_binary_inv = cv2.threshold(gray, 127, 255, cv2.THRESH_BINARY_INV)

_, th_trunc = cv2.threshold(gray, 127, 255, cv2.THRESH_TRUNC)

_, th_tozero = cv2.threshold(gray, 127, 255, cv2.THRESH_TOZERO)

_, th_tozero_inv = cv2.threshold(gray, 127, 255, cv2.THRESH_TOZERO_INV)



# Umbral adaptativo

th_mean = cv2.adaptiveThreshold(gray, 255, cv2.ADAPTIVE_THRESH_MEAN_C,

                        cv2.THRESH_BINARY, 11, 2)

th_gauss = cv2.adaptiveThreshold(gray, 255, cv2.ADAPTIVE_THRESH_GAUSSIAN_C,
```

```
                    cv2.THRESH_BINARY, 11, 2)



# Otsu

_, th_otsu = cv2.threshold(gray, 0, 255, cv2.THRESH_BINARY + cv2.THRESH_OTSU)



# Mostrar resultados

cv2.imshow('Original', img)

cv2.imshow('Gray', gray)

cv2.imshow('Binary', th_binary)

cv2.imshow('Binary Inv', th_binary_inv)

cv2.imshow('Trunc', th_trunc)

cv2.imshow('To Zero', th_tozero)

cv2.imshow('To Zero Inv', th_tozero_inv)

cv2.imshow('Adapt Mean', th_mean)

cv2.imshow('Adapt Gauss', th_gauss)

cv2.imshow('Otsu', th_otsu)

cv2.waitKey(0)

cv2.destroyAllWindows()
```

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Demostración: