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| **Image Processing** | | |
| Praktikan | **Aslab** | |
| Nama: xxxx  Nim: xxxx | Annur Hangga Prihadi | 065001800028 |
| Faiz Kumara | 065001800003 |

**PRAKTIKUM 11**

**DATA SAINS DAN ANALITIK**

Topik pertemuan praktikum ke-sebelas adalah mengolah data gambar dengan menggunakan Image Hashing untuk mencari kemiripan suatu gambar, Hough Transfrom untuk mendeteksi garis gambar, Morfologi untuk mendeteksi elemen penataan, Orb untuk mendeteksi poin kecil pada suatu gambar

**Source Code:**

**Image Hashing:**

<https://github.com/hanggaa/PrakDSDA/blob/main/Prak_11_Hashing1.ipynb>

**Plot Morphology:**

<https://github.com/hanggaa/PrakDSDA/blob/main/Prak_11_Plot_Morphology.ipynb>

**Plot ORB:**

<https://github.com/hanggaa/PrakDSDA/blob/main/Prak_11_Plot_Orb.ipynb>

**Plot Hough Transform:**

<https://github.com/hanggaa/PrakDSDA/blob/main/Prak_11_Plot_Circular_Elliptical_Hough_Transform.ipynb>

**Latihan**

**Image Hashing**

1. **Memasang library yang dibutuhkan**

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1. **Implementasi Average Hash Image 1**

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1. **Implementasi Average Hash Image 2**

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1. **Implementasi Perception Hashing 1**

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1. **Implementasi Perception Hashing 2**

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1. **Implementasi Difference Hashing 1**

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1. **Implementasi Difference Hashing 2**

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1. **Implementasi Wavelet Hashing 1**

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1. **Implementasi Wavelet Hashing 2**

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**Plot Morphologi**

1. **Memasang Library dan Membaca Data**

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1. **Membuat Fungsi Perbandingan Plot**

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1. **Implementasi Morfologi Erosi**

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1. **Implementasi Morfologi Dilation**

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1. **Implementasi Morfologi Opening**

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1. **Implementasi Morfologi Closing**

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1. **Implementasi Morfologi White Tophat**

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1. **Implementasi Morfologi Black Tophat**

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1. **Implementasi Morfologi Skeletonize**

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1. **Implementasi Morfologi Convex Hull 1**

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1. **Implementasi Morfologi Convex Hull 2**

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**Plot ORB**

1. **Memasang library yang dibutuhkan**

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1. **Membaca data**

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1. **Implementasi ORB**

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1. **Visualisasi Hasil ORB**

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**Plot Hough Transform**

1. **Memasang library yang dibutuhkan**

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1. **Membaca Data**

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1. **Implementasi Hough Transform Circle Detection**

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1. **Visualisasi hasil Hough Transform Circle Detection**

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1. **Memasang library Ellipse Detection**

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1. **Membaca Data Ellipse**

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1. **Implementasi Hough Transform Ellipse Detection**

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1. **Visualisasi Hasil Ellipse Detection**

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