

Lab 5: 15/04/2024

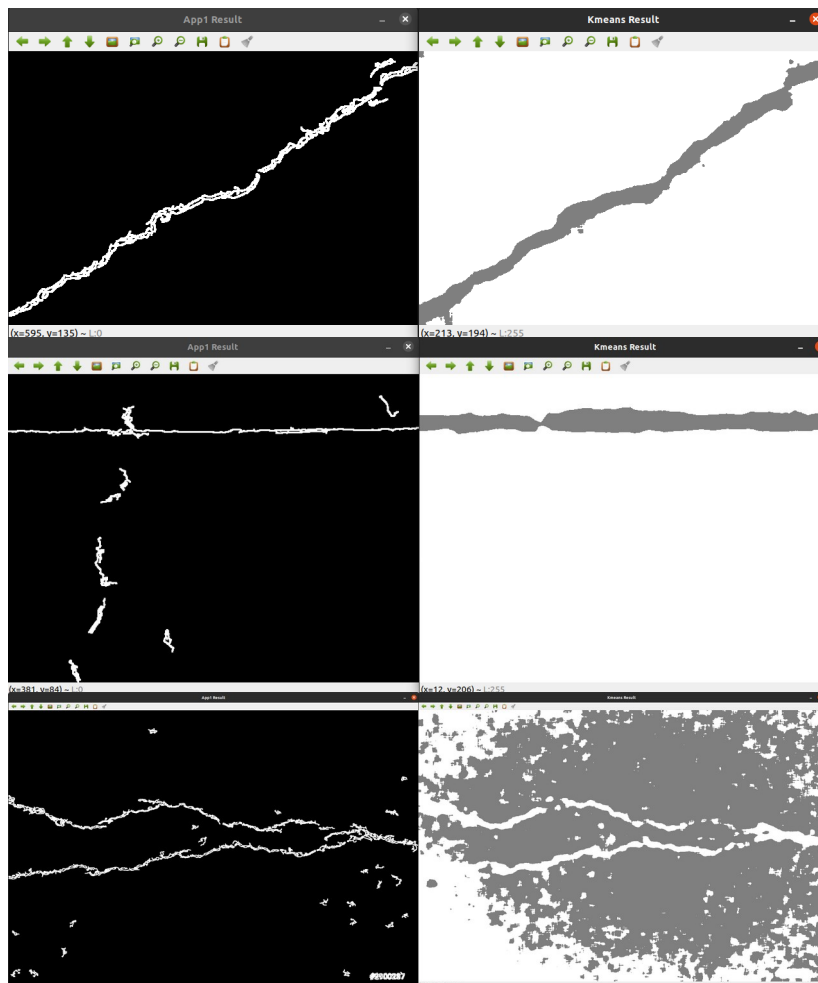
Task1: Execution command: ./Task1 Asphalt\ cracks\Asphalt-1.png

To solving this task, two different approaches are implemented.

The series of operation for the first approach are:

GrayScale → Average Filter → Log Transform → Bilateral Filter → Canny Edge Detection → Denoising by using **connectedComponents**(removing group of pixel where their size are under the defined threshold).

For the second approach, KMeans algorithm utilized.



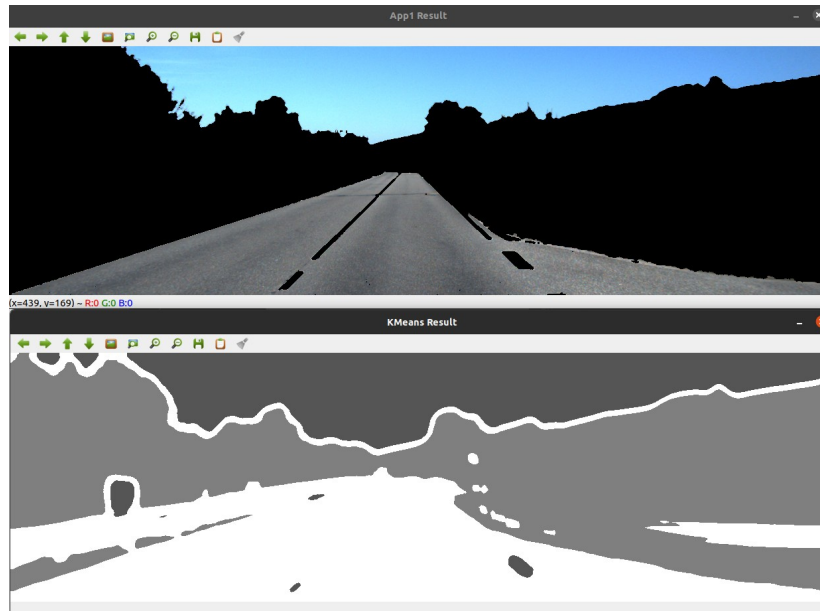
Task2: Execution command: ./Task2 street_scene.png

To solving this task, two different approaches are implemented.

The series of operation for the first approach are:

Convert to HSV → Median Filter → Define color ranges to segment Sky and Asphalt → Create masks for Sky and Asphalt → Copy the mask into the original image → Consider remaining pixel as the third category(everything else) → Denoising by using **connectedComponents**(adding pixel into else mask).

For the second approach, KMeans algorithm utilized.



Task3: Execution command: `./Task3 robocup.jpg`

The series of operation for this task are:

Convert to HSV → Define color ranges to segment Robot's T-shirts → Create T-shirts mask → Denoising by using **connectedComponents**(removing group of pixel where their size are under the defined threshold) → Set the remaining pixel color to black

