Image Rotation Library - Documentation

1. Description

This package is the skeleton of a utility library to perform 2D image rotation with different algorithms. The nearest neighbor interpolation method has been implemented.

Multithreading is supported by the **rotate_nearest_neighbor_interpolation** function. It uses 1 thread by physical core available on the target machine. Multithreading is used to process simultaneously different pixel areas of the image. If the machine has N cores, the image will be divided in N areas (width dimension) and each area will be processed by one thread.

The library is robust to

- Different input image extensions *.jpg *.jpeg *.jpe *.png *.bmp *.dib *.sr *.ras *.tiff *.tif
- Different Image dimensions NxN pixels or NxP pixels

2. Zip Content

Folders

- input : input images folder for tests included in main.cpp
- output: output folder for processed images
  - expected_output : folder with images processed with the rotation library

Scripts

- compile.sh : compilation cmd line
- run.sh : main execution script

Sources

- main.cpp : performs test calls of the image rotation library
- image_rotation.cpp/.h : definition of the library functions

Program

- image_rotation_lib_demo

3. Dependencies

The image rotation library uses

- std
- pthread : for thread handling
- openCv : for I/O (image read and write only)