

# **TNM087 - Image Processing and Analysis**

## **FRotate.m**

### **Background:**

Geometric transformations are one of the basic tools in image processing and computer vision. Rotations are a good example illustrating the problems related to coordinate changes.

This function illustrates the changes between the ordinary Euclidean and the polar coordinate system. You also have to implement some kind of interpolation since a grid point in one system will not be mapped to a grid point in the other. Read Chap. 2.1 in Computer Vision for a description.

3D rotations are much more complicated as you can see from the description in Chap. 2.1.4 in Computer Vision

### **Task:**

Rotate an image around a given center point. To pass it is sufficient to use nearest neighbor interpolation. Using more complicated interpolations (like bilinear) is optional but highly recommended.

### **Syntax:**

**Function** RImage = FRotate(OImage, center, degangle )

### **Hints:**

Read the Matlab help pages for meshgrid, cart2pol and pol2cart.

Do NOT use the built-in interpolation functions in Matlab