Computer Vision

EMARO- *European Master on Advanced Robotics*

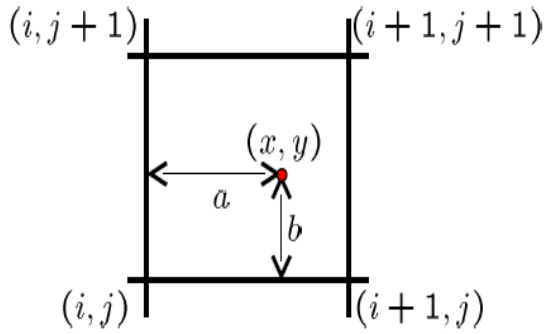
Robotics Engineering *Master Degree*

Lab Session n. 1

Image warping and bilinear interpolation

Given a coordinate transform (x,y)=h(x',y') and a source image f(x',y'), compute a transformed image g(x,y) = f(h(x',y')).

- Perform backward warping (from the output image to the input image) with a bilinear interpolation.
- Example of transformations: translation and rotation (try different angles).



$$
\begin{aligned}
f(x,y) = \; & (1-a)(1-b) && f[i,j] \\
& +a(1-b) && f[i+1,j] \\
& +ab && f[i+1,j+1] \\
& +(1-a)b && f[i,j+1]
\end{aligned}
$$

Notes

- Upload a single script complete of all the necessary parameters and function calls to be used to achieve the goals of the lab session.
- Provide the visualization of the results. (e.g. use imagesc funtion)
- Provide a code without absolute paths.