**CS 6790 : Geometry & Photometry-based Computer Vision**

# Programming Assignment 2

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Please compute the image of the absolute conic $\omega$ and camera calibration matrix K, given one or a few pictures from a single camera:

1. By assuming a full K matrix,
   - (a) by using 5 perpendicularity relations between vanishing points.
   - (b) by computing the homography relation between a metric co-ordinate system fixed to the scene plane and the image of the same. (3 such homographies are needed).
2. By assuming square pixels (i.e. skew = 0 and $f_x = f_y$ :
   - (a) by using 3 perpendicularity relations between vanishing points.
   - (b) by computing the homography relation between a metric co-ordinate system fixed to the scene plane and the image of the same. (2 such homographies are needed).

- **Suggested Programming languages :** Python/Matlab
- **Dead line : 17/03/2020**
- **Images for Assignment :** `https://goo.gl/nWohJo`. You may resize and crop images for faster processing.
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