**State of the Art report for deliverable 2.1**

**[DRAFT]**

**MOD4**

Overall description

The MOD4 of Fence deals with splicing detection observing the consistency of principal points extracted from image patches that include a cube-like object. In particular MOD2 aims at detecting splicing of buildings in a city landscape.

Main sub-modules:

1. Scene classification
2. Façade detection and building segmentation
3. Line segment extraction
4. Vanishing point and principal point computation
5. Integrity decision

Related State of the Art Review

As for the other models, the first step (Scene classification) will be addressed from the second year of MediFor. Since MOD1 and MOD2 use the same scene level feature (i.e. the image principal point), they share similar steps in their respective pipeline: Review of state of the art solutions for steps 3, and 4 can be found in the previous section regarding MOD1.

The main review activity related to this module address the problem of façade detection and building segmentation. In computer vision literature this problem has been tackled from many researches: more typical solutions (CITA) exploit … CONTINUA. An interesting and pretty recent approach (CITA) exploits the TILT features, … CONTINUA.

We retrieved a demo façade detection software, released from the author of (CITA), and we tested its performance on two dataset of man-made environment (YORK & TVPD). After a manual validation of the results, we found that … CONTINUA

On the other hand, to the best of our knowledge, there aren’t any specific solution for complete building segmentation. A partial solution could be provided by (CITA), where the author describes a method for detecting the intersection line between two façades … CONTINUA.

References:

[1] …

[2] …