Project description

Computer Vision

Topic

1. **Automatic** zebra crossing **recognition**.
2. **Classification** of zebra crossing images according to whether they contain pedestrians or not.

The first part should be developed using classical CV techniques, while the second part should use transfer learning on already trained DL models, with the specific purpose of detecting pedestrians in the image.

Part 1: Detection of zebra crossings in street images

Part 2: Classifying zebra crossing images as containing or not pedestrians

Groups

- Up to five members, one of whom will be the **coordinator** and interact with me when necessary.
- All the members of the group shall **enrol** in the virtual course *Deep Learning with MATLAB*[*] and upload the course certificate before December 10.

*https://matlabacademy.mathworks.com/details/deep-learning-with-matlab/mldl

Starting group meeting

- On **December 4**, individual group meetings will take place through Teams, to discuss about your proposal.
- The exact time and link to join the meeting will be sent to the coordinator of each group the day before the meeting.
- All members must be connected to the meeting.
- The final filled document must be uploaded to the virtual campus no later than **December 10.**

Project delivery

- The project report must be uploaded to the system no later than **January 7** by each member of the group.
- The slides of the presentation must be uploaded to the system no later than **January 10** by each member of the group
- All members must be connected to the meeting.

Project presentation

- The project will be presented on **January 10** after the exam on the theoretical part.
- Each group will have 30 minutes for the presentation, and all members of the group must equally participate.

Evaluation

1) Proposal (10%), including the Deep Learning course certificate

2) Follow-up (10%)

3) Report (50%):

State of the art (10%); Argumentation (35%);
Methodology and Results (35%); Formal aspects (15%)

4) Presentation (30%)

Formal aspects and originality (10%); Methodology (40%);
Results (35%); Clarity of Presentation (15%)

Evaluation

- The **Report** will be assessed using the rubric used throughout the course, including the **self-assessment** and **peer assessment** rubrics.
- The **Presentation** will be assessed individually.
- Each of the items will receive a qualitative grade, with the following numerical correspondence:

Table 1: Qualitative grades (%)

A+	A	B	C	D	E
100	90	75	50	25	0