EE-451 Project announcements

We have important information regarding the project presentations for the "Tiling Puzzle Project." Please take note of the following details For the day of the exam.

- Each team will give a presentation about their results in no more than 15 minutes. **During the presentation, please focus on explaining the key components of your methods and algorithms used to solve the tiling puzzle problem.**
- While presenting, you will be provided with **a test dataset that needs to be solved**. The dataset contains 10 images, 7 of which are from the "train2" dataset previously given, and the other 3 will be new unseen images, with similar properties to the images you saw before. The solve test dataset should be uploaded to Moodle platform before concluding your presentation, in the **Project results** section.
- We include here a script *saving_evaluation_files.py* to export your result files. For each test image i you will save the following files
  - *mask_0i.png*
  - *cluster_images_0i.png*
  - *feature_map_0i.png*
  - *solved_puzzle_0i_00.png*
  - *solved_puzzle_0i_01.png*
  - ...

Please ensure you are prepared for your presentation and familiarize yourselves with the provided script for saving your outputs.

The project grading follows the following criteria:

1. Presentation (20%): We assess the clarity of your presentation.
2. Methods (40%): You provide explanations of your algorithms to demonstrate your understanding and demonstrate their correct usage: $\frac{1}{3}$ weight for each step of the project 1)Segmentation, 2)feature extraction, 3)Clustering. **(An $\frac{1}{3}$ extra if you completed the 4th step of solving the puzzle).**
3. **Save_files** results (40%): We evaluate the **save_files**, you uploaded to moodle.

   The score of the **save_files** will be the mean of the score of the 10 images, with the following weights:

   - Segmentation sensibility $\frac{1}{3}$. Evaluating with $\frac{\text{\# of segmented pices}}{\text{total \# of pieces in puzzle}}$ in the **mask_0i.png** file.
   - Feature extraction $\frac{1}{3}$. Given by uploading the **feature_map_0i.png**. (*for free*).
   - Cluster Accuracy (CA) $\frac{1}{3}$. Computed using the Confussion Matrix If C is the $n \times n$ confusion class of with n different classes, the cluster accuracy is

   $$CA = \frac{\sum_i C_{i,i}}{\text{total \# of pieces in puzzle}} \tag{1}$$

   Where the clusters are found in the file **cluster_images_0i.png**.
   - (Extra) Solved puzzle $\frac{1}{3}$ If you submit the *solved_puzzle_0i_0j.png*. $\frac{\text{\# of pices well placed}}{\text{total \# of pieces in puzzle}}$, for each puzzle.