

CV703: Assignment I

Image classification

Type: Group Assignment.

Maximum number of students per group: 3.

Assignment 1 carries 10 marks in total. Assignment 1 consists of three sub-tasks.

1. To design, train, and evaluate a fine-grained classification method on CUB bird's dataset. This dataset contains 200 classes.
2. To design, train, and evaluate a fine-grained classification method on a combined set of (CUB birds + Stanford Dogs). It will have $200 + 120 = 320$ classes
3. To design, train, and evaluate a fine-grained classification method on a FoodX dataset. This dataset contains 251 classes.

Marks distribution:

- Base marks=7 will be awarded if working with straight forward solution (transfer learning on existing backbone ResNet, DenseNet etc).
- Base marks + 2 will be awarded if solution includes beyond a simple transfer learning (ex. hybrid version of CNN and transformers architecture etc.).
- Base marks + 2 + 1 will be awarded if the solution secured first rank in terms of average classification accuracy on sub-task two.

Deadlines: The deadline to submit the technical report summarizing all the details along with respective code and a teaser video is by the end of October 18, 2021 (23:59 UAE time). All the required material should be zipped in one folder (per group).

The dataloaders for all the three sub-tasks are provided on Moodle.

The datasets are also available.

Assignment Deliverables:

For all the tasks, there are three deliverables: a completed code and a technical report and teaser video. The completed code in the form of Jupyter notebook should be submitted in a zipped folder. The technical report (no longer than 3 pages) is expected to describe the introduction to the problem, contributions, proposed architecture, implementation details, a discussion about the results obtained.

Submission Procedure: All the required material (technical report and code) should be submitted in one zipped folder with name (studentID_Assignment_I). In case the zipped folder exceeds the Moodle upload limit (8 MB), please contact the lab supervisors (akshay.dudhane@mbzuai.ac.ae and jean.lahoud@mbzuai.ac.ae). The deadline to submit all the required material is by the end of October 18, 2021 (23:59 UAE Time).