Neural Networks

2025-2026

Project Description

Deep Learning Project: Style Classification for Indoor Scenes

- The goal of this project is to train deep learning models capable of classifying indoor scenes into different design styles based on their visual characteristics. The model will categorize interior spaces using a dataset of indoor design style-labeled room images. By leveraging deep learning techniques, the model should learn to automatically identify and distinguish various interior design styles from visual input, enabling consistent and accurate style recognition across diverse indoor environments.

- **Competition Link** (You must use this link to be able to join the competition): https://www.kaggle.com/t/bbfc7cbafb334c86ada4e271e8dc6d1e

- Must solve unbalanced data problem if found

- Dataset links can be found on Kaggle

Deep Learning Project: Website reviews

The goal of this project to help the website to know the rank of the website form the users' reviews. By developing deep learning model to convert the user`s comment to rank it to (Excellent, Very good, good, bad , very bad) . The deep learning model must have the capability to classify the comment to one of the five classes.

- **Competition Link** (You must use this link to be able to join the competition): https://www.kaggle.com/t/30aadfa5dfd04434a44e92c189dd3d7e

- Must solve unbalanced data problem if found

- Dataset links can be found on Kaggle

Deep Learning Competition

- **Competition Rules:**
  - **One account per team participant** : You cannot sign up to Kaggle from multiple accounts and therefore you can submit only from one account.
  - The **team name** on Kaggle should be the **same Team ID** as the one given to you [here].
  - **No private sharing** outside teams : Any form of cheating or illegal behavior will lead to being disqualified and losing the project grades.
  - **Keras.applications or any similar API is NOT ALLOWED**
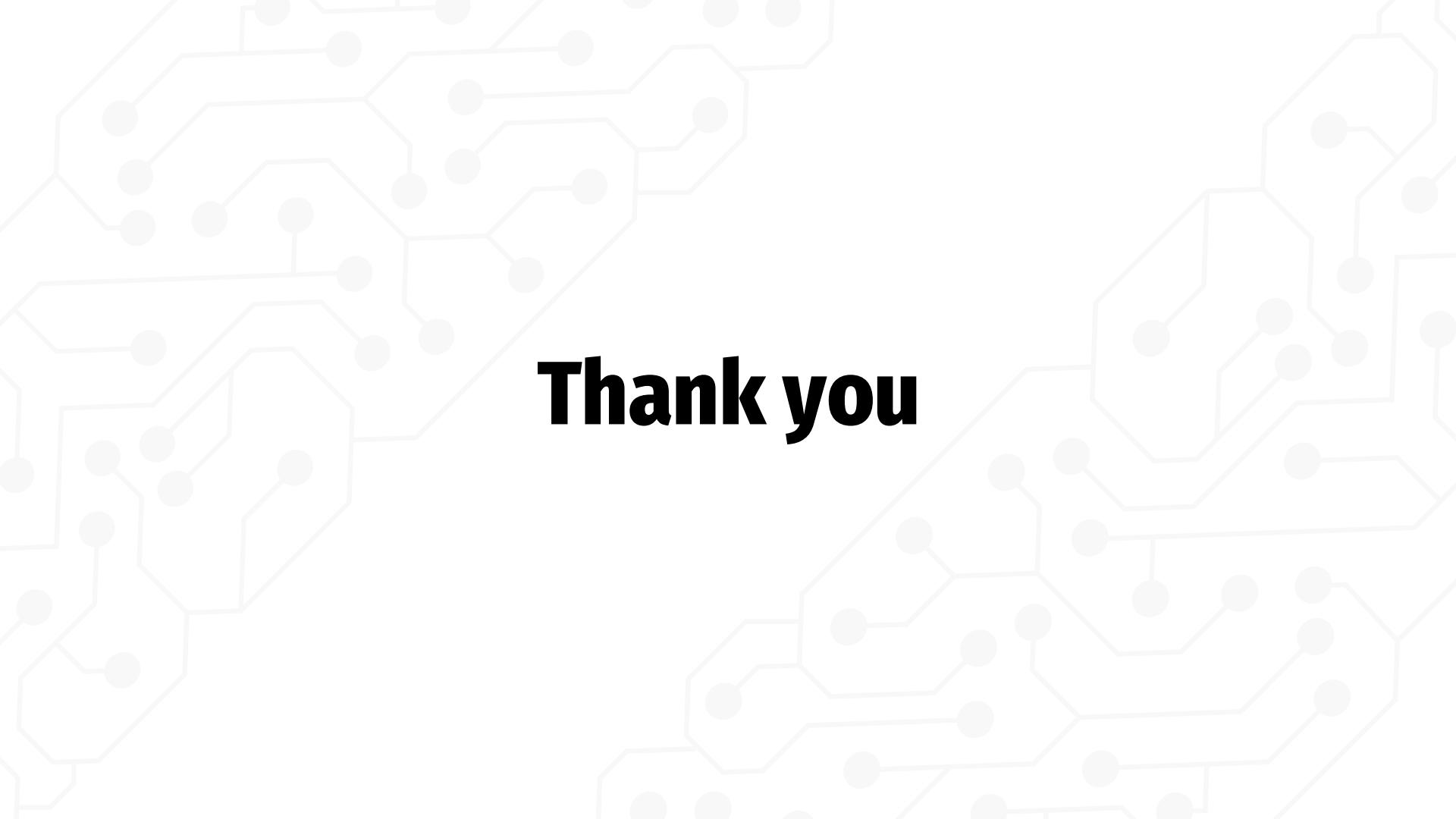- **Submission Limits**
  - You may submit a maximum of 5 entries per day.
  - You may select up to 2 final submissions for judging.

- **Competition Timeline**
  - Start Date: 21/11/2025
  - End Date: The day before the practical exam day.

Deep Learning Competition

- You must register and submit your results on Kaggle website.
- **Keras.applications or any similar fully built-in models are NOT ALLOWED**
- **You will be given a small test sample on the practical exam day**, so each team needs to save the weights of the network used during training and create a script that loads the weights, generates a csv file containing the predicted labels for the test samples. Note that on the practical exam day, the test script needs to run on your laptop or if you want to use Colab/Kaggle for the test, make sure to have a very good internet connection as it is not guaranteed that it would be available in the lab.

- If you trained the models using a notebook, you must deliver the notebook with the output cell saved displaying the training logs. If you trained the model using IDE (i.e Pycharm). You must deliver screenshots of the training process
- **The evaluation of the project will be on the following items**:-
  - Building multiple appropriate models (four models: at least one of them must be transformer) and understanding each part of it.
  - Applying the appropriate data preparation steps
  - The achieved accuracy on Kaggle
  - Deliver a detailed report of what architectures you used, all trials and your conclusion from these trials

Thank you