CS424 Assignment 1

Competition Link: Kaggle

Task: Train a neural network for a 10-classes image classification task, aiming for high classification accuracy. You may design new neural networks or utilize any existing ones (like VGG, ResNet or others) while adhering to the requirements below.

Requirements

1. **Data Usage**: **Only** the provided training set can be used for training. Using test data or additional external data is strictly forbidden.
2. **Baseline Code**: Utilize the provided notebook for predictions on test data after training your model. Otherwise, your prediction order may have issue.
3. **Training Constraints**: Models must be trained from scratch (weights=None). **Pre-trained** models are **not** allowed.
4. **Model Size**: The model size (total parameter number) must not exceed **26MB**. Please use the provided function to test the model size.
5. **Submission Deadline**: **20 February 2025, 11:59 PM**, including Kaggle submission and also eLearn submission.
6. **Submission Limit**: A maximum of 100 submissions per day is allowed on Kaggle for higher ranking.

Submission Instructions

1. **Kaggle Submission**: Submit your predictions in a CSV file named "Username.csv" to Kaggle for ranking.
2. **eLearn Submission**: Compress the following into a ZIP file and upload it to eLearn
   o **Report**: A PDF document
   o **Code**: Include all associated code files.

Evaluation Criteria

1. **Performance (60%)**: Based on your Kaggle ranking—higher rankings receive higher scores.
2. **Report Quality (35%)**:
   o **Basic Introduction (15%)**: Network description, size, and performance.
   o **New Network Design (10%)**: Any innovative neural network architecture design or improvement by yourself.
   o **Findings/Insights (10%)**: What important findings or insights you have observed from network training.
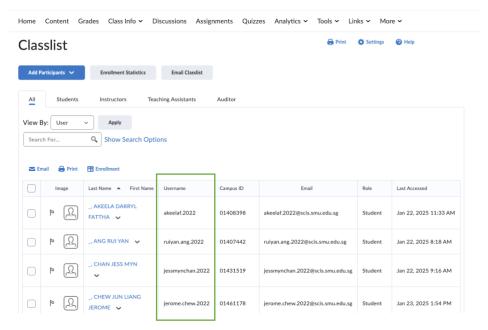3. **Code Quality (5%)**: Code organization, clarity, and adherence to best practices.

Tutorial:

https://drive.google.com/file/d/1DdFHYbfv-PcZUSRJsXVIhYwZtCwMb5SF/view?usp=sharing

Kaggle Submission Steps:

1. Name of your submission file: Username.csv

2. Submit a CSV file

Submit Prediction •••

CS 424: Generative AI for Vision

📤

Drag and drop file to upload

(e.g., .csv, .parquet, .zip, .gz, .7z, .tar)

or

Browse Files

A	B
id	label
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00000.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00001.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00002.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00003.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00004.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00005.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00006.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00007.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00008.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00009.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00010.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00011.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00012.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00013.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00014.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00015.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00016.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00017.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00018.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00019.png	
/kaggle/input/cs-424-ass-1-wednesday-class/test/test/img_00020.png	