

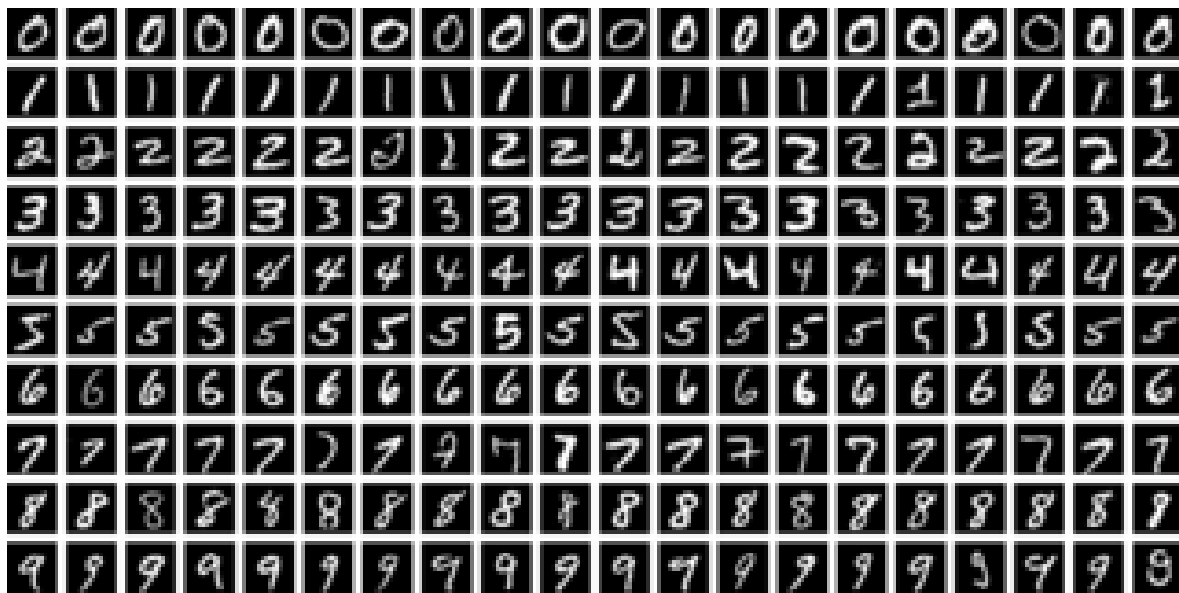
HOMWORK-I

EE655: CV & DL

Deadline: 11:59 PM, 25/01/2025

Marking Scheme: Binary (0/1)

Apply the HOG feature extraction algorithm to the images in the MNIST dataset and build an image classification model to recognize handwritten digits using these features.



Sample images from the dataset are shown above, and the dataset can be downloaded from the following link: <https://github.com/teavanist/MNIST-JPG>

You are required to submit a single PDF file containing all the details of your work, including the code. While you are free to choose any standard machine learning (ML) algorithm, aim to achieve the best possible accuracy by experimenting with different ML algorithms and tuning their hyperparameters. Additionally, explore adjusting the parameters of the HOG algorithm to further optimize performance.