ML2 Project Proposal

Group 2

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Having unclear images could be a problem for us. Unclear images could make us unable to understand the content and significance, or even miss the details. For this project, we will conduct research on improving image resolution with deep learning techniques. The dataset includes images both in low resolution and high resolution.

The initial choices of models include computer vision neural networks (CNN) and Autoencoder. We will keep customizing them to improve performance continuously. The reference sources will include the class notes and papers related to image analysis on paperswithcode. For the evaluation, we could get a number of test images and directly compare them with the produced resolution-improved images. Also, we may use metrics like SSIM and PSNR as evaluation scores.

Here is some schedule to follow:

- By Nov 16 – Data Wrangling
- By Nov 30 – General Pipeline of training and testing
- By Dec 7 - Evaluation
- Dec 12 – Presentation

Dataset URL: https://www.kaggle.com/datasets/akhileshdkapse/super-image-resolution