Detecting AI-Generated Images using ResNet

Ziyang Zeng and **Zhehu Yuan** and **Yifan Jin**
Dept. of Computer Science
New York University
251 Mercer Street, New York, NY
zz2960@nyu.edu, zy2262@nyu.edu, yj2063@nyu.edu

Abstract

Abstract goes here.

1 Introduction

Introduction goes here.

2 Related Work

Related work goes here.

3 Datasets

In order to train a classifier that can distinguish between real and generated images, we need a labeled dataset that consists of both real and generated images for supervised learning. Datasets of this kind is not common, and we'd like to experiment on the latest state-of-the-art image generation AI models, such as DALL·E 2 and Stable Diffusion. We started with real photos from existing public datasets as our raw datasets. Then, we use Diffusers-based image-to-image model to generate images from real photos. This way, we can get a labeled dataset that consists of both real and generated images.

3.1 Raw Datasets

The original real-world photos we experimented with are from public datasets: Indoor Scene Recognition Database and Weather Image Recognition Dataset. Additionally, we want to test how well our model performs on non-photo art work. A dataset that consists of pages of comic art (the Comic Books Images Dataset) is also used in our experiments.

3.1.1 Indoor Scene Recognition Database

The Indoor Scene Recognition Database is a collection of 67 indoor categories (e.g. airport, living room, restaurant...) and at least 100 images per category. There are 15,620 images in the dataset in total.

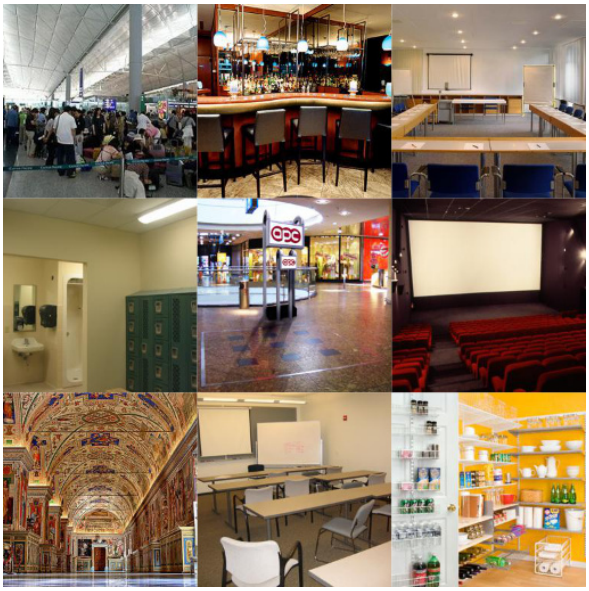

Figure 1: Indoor Scene Recognition Database Examples

3.1.2 Weather Image Recognition Dataset

3.1.3 Comic Books Images Dataset

3.2 Diffusers

3.2.1 CLIP guidance

3.2.2 Stable Diffusion

3.2.3 DALL·E 2

4 Classifier

Classifier goes here.

5 Experiments

Experiments go here.

5.1 Experiment Settings

Experiment Settings go here.

5.2 Evaluation Metrics

Evaluation metrics go here.

6 Experiment Results

Experiment results go here.

7 Conclusion

Conclusion goes here.

8 Discussion and Future Work

Discussion and future work go here.

References