

Supplementary Results for CycleGAN

Karan Pardasani

kp955@scarletmail.rutgers.edu

Rutgers University

Department of Computer Science

Jaini Patel

jp1891@scarletmail.rutgers.edu

Rutgers University

Department of Computer Science

Animesh Sharma

animesh.sharma@rutgers.edu

Rutgers University

Department of Computer Science

Harish Udhay

harish.udhayakumar@rutgers.edu

Rutgers University

Department of Computer Science

1. Inception Scores

Inception Score (IS) is a metric for evaluating the quality of generated images, particularly synthetic images output by generative adversarial network models. For the purposes of quantitative evaluation, a higher inception score is better.

Observations from the graphs below:

- The general trend for inception scores is increasing with epochs in all cases.
- On average, the inception scores are higher for Live Synthetic Pizza dataset, since this dataset has a lower domain gap with respect to real pizza dataset, when compared with the pre-recorded pizza dataset.
- The enhanced CycleGAN produces slightly better Inception Scores overall, compared to the base CycleGAN

1.1. Base CycleGAN

We trained the base CycleGAN model on the pre-recorded pizza dataset and the live synthetic dataset for 50 epochs. The inception scores are calculated every 5 epochs.

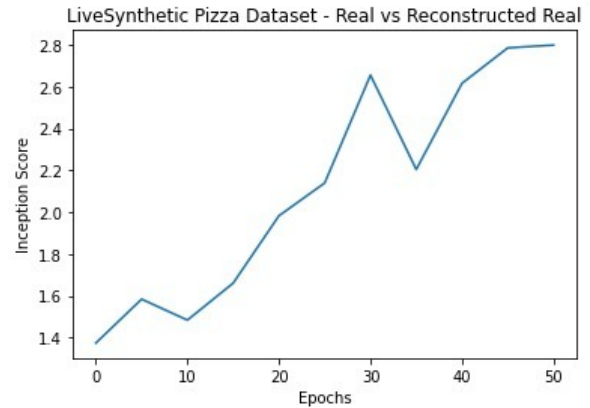


Figure 1. Inception Score for real images versus reconstructed real images from live synthetic pizza dataset

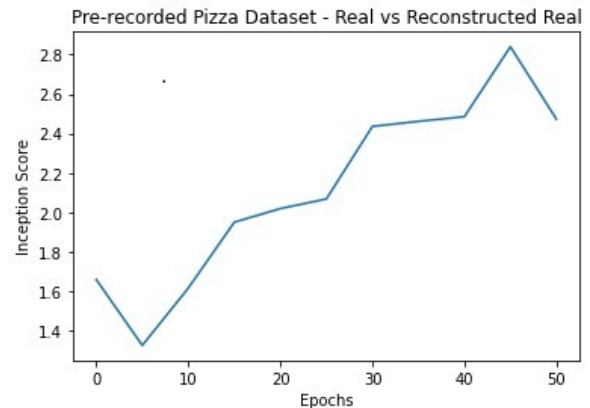


Figure 2. Inception Score for real images versus reconstructed real images from pre-recorded pizza dataset

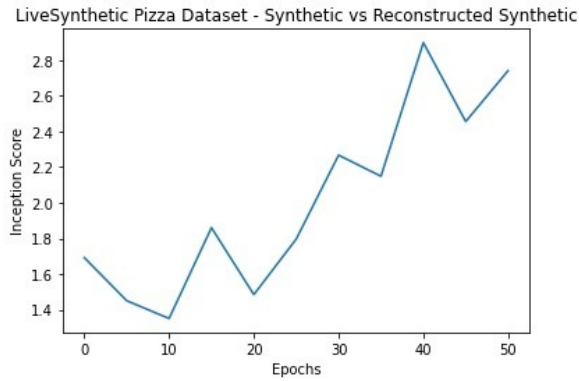


Figure 3. Inception Score for synthetic images versus reconstructed synthetic images from live synthetic pizza dataset

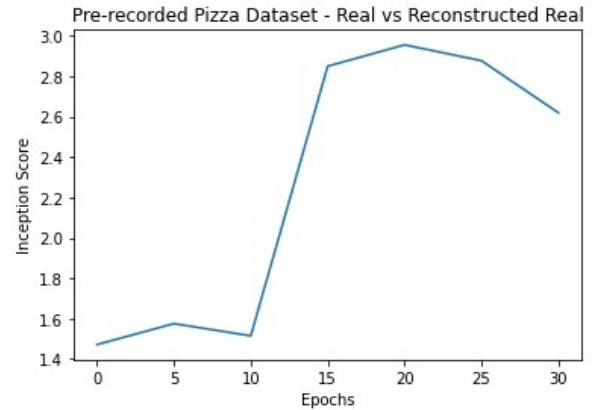


Figure 6. Inception Score for real images versus reconstructed real images from pre-recorded pizza dataset

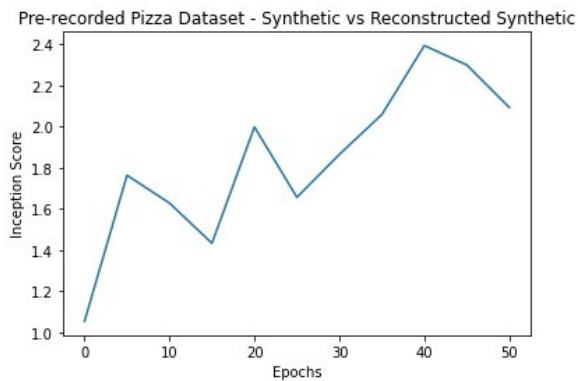


Figure 4. Inception Score for synthetic images versus reconstructed synthetic images from pre-recorded pizza dataset

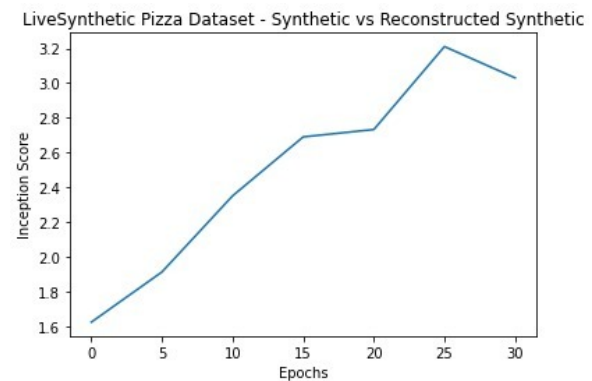


Figure 7. Inception Score for synthetic images versus reconstructed synthetic images from live synthetic pizza dataset

1.2. Enhanced CycleGAN

We trained the Enhanced CycleGAN model on the pre-recorded pizza dataset and the live synthetic dataset for 30 epochs. The inception scores are calculated every 5 epochs.

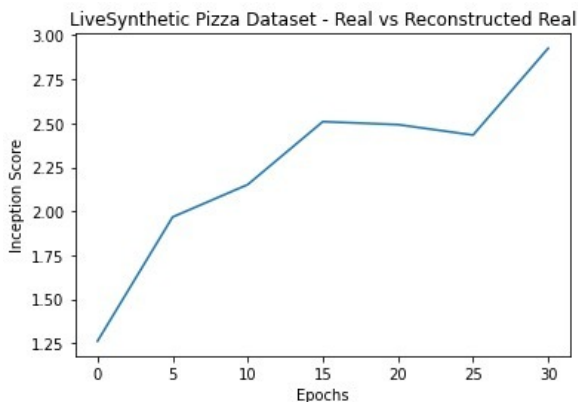


Figure 5. Inception Score for real images versus reconstructed real images from live synthetic pizza dataset

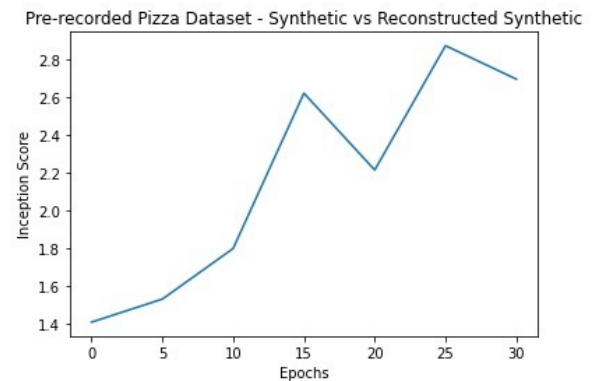


Figure 8. Inception Score for synthetic images versus reconstructed synthetic images from pre-recorded pizza dataset