

# Diffusion Models: Implementation of the DDPM and DDIM

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## Results of DDPM and DDIM Application

This file presents the results of implementing and testing a Denoising Diffusion Probabilistic Model (DDPM) and Deterministic Diffusion Implicit Models (DDIM). The experiments were conducted on the MNIST dataset for 30 epochs.

### DDPM Results

The following results correspond to the DDPM implementation:

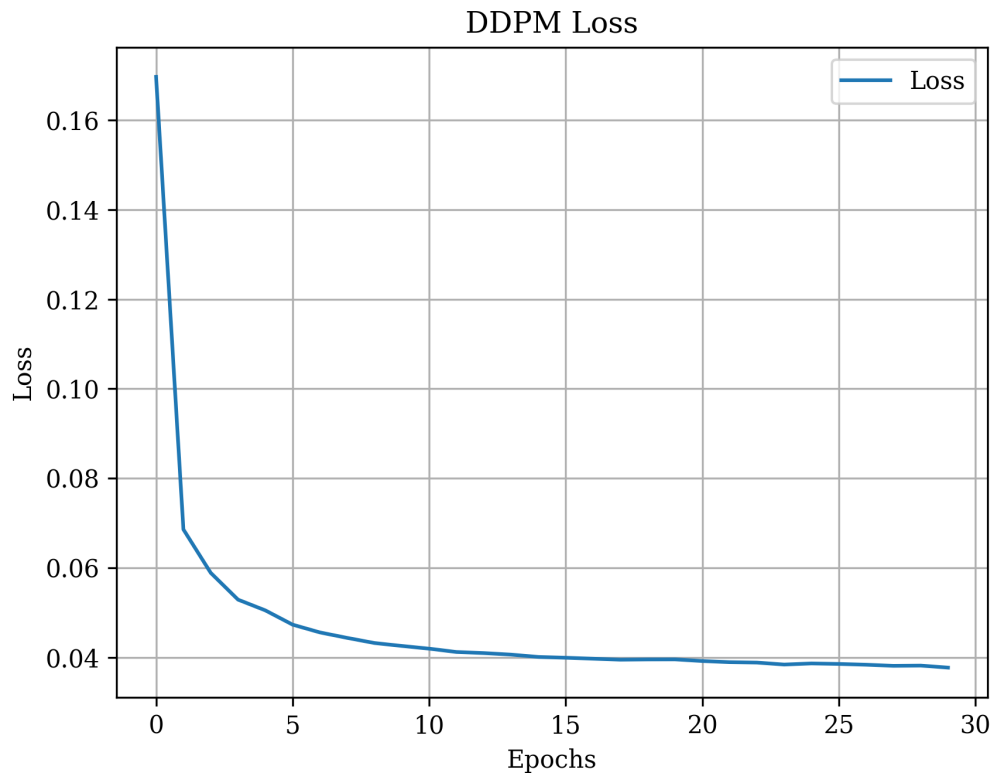


Fig. 1: MSE loss during training of DDPM for 30 epochs.



Fig. 2: Samples generated from DDPM at the last epoch using 1000 timesteps.

## DDIM Results

The following results correspond to the DDIM sampling method using the trained DDPM model:



Fig. 3: DDIM samples with 5 steps.



Fig. 4: DDIM samples with 10 steps.



Fig. 5: DDIM samples with 20 steps.



Fig. 6: DDIM samples with 50 steps.