

COMPARATIVE ANALYSIS OF GANS AND DIFFUSION MODELS

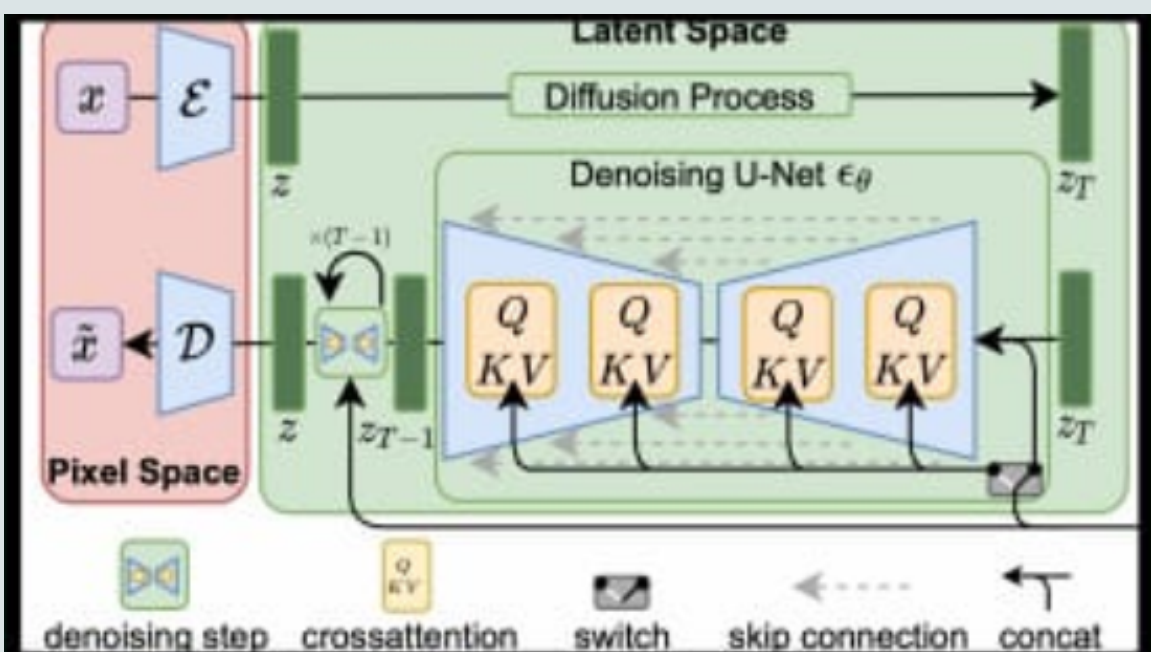
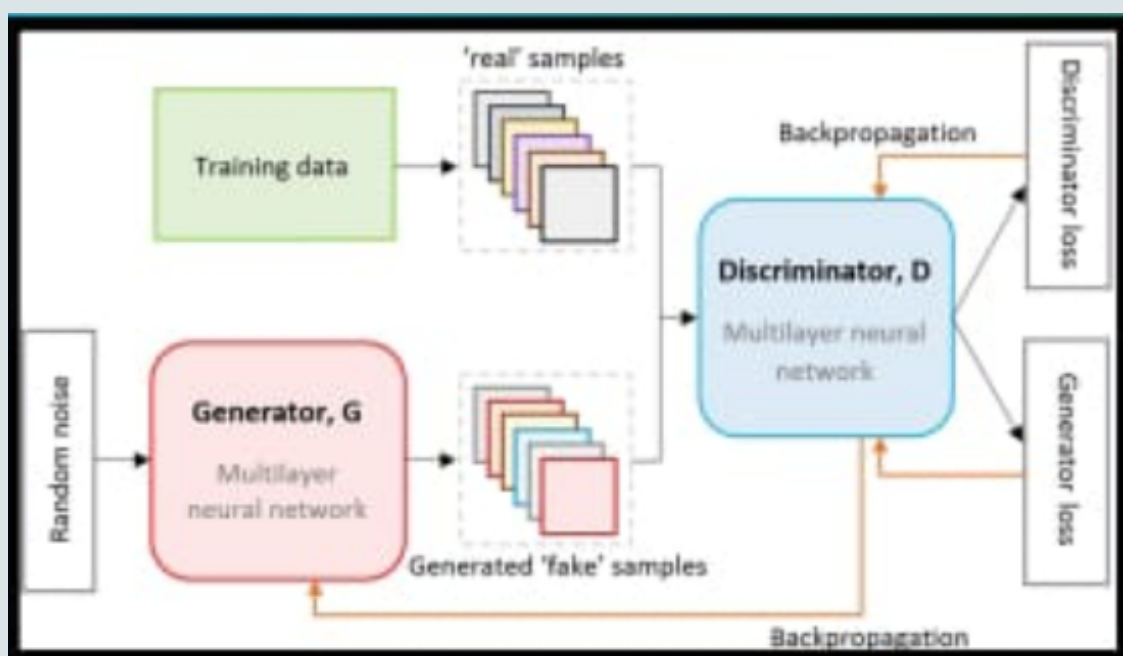
GAN'S

Two neural networks compete; one generates synthetic data, the other discriminates between real and fake, improving realism.

DIFFUSION

Probabilistic model transforms noisy input into target distribution, used for image generation, denoising, and inpainting.

Architecture



GANS	SIMILARITY	DIFFUSION
<ul style="list-style-type: none">• Adversarial loss• Generator-Discriminator setup• Slower convergence• Hard to Train• Training not Stable• Actual generator model does not have true loss	<ul style="list-style-type: none">• Data Generation• Noise Handling• Probabilistic Modeling• Data Generation	<ul style="list-style-type: none">• Reconstruction Loss• Sequential Refinement Setup• Faster Convergence• Easy to train Training• Actual generator model does have true loss