

# DEMO OF DIFFUSION MODELS USING THE HUGGING FACE DIFFUSERS LIBRARY

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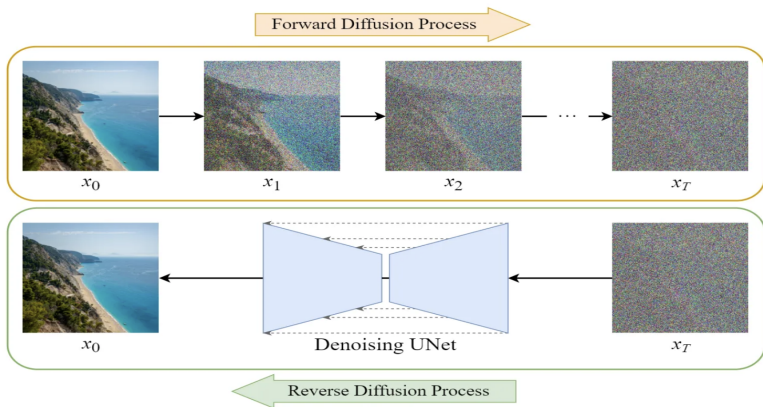


# WHAT ARE DIFFUSION MODELS?

- Learn by adding and removing noise from data.
- Trained to reverse a gradual noising process.
- Generate new data by denoising random noise.

# HOW IT WORKS?

- Forward Process: Gradually adds noise to data over multiple steps.
- Reverse Process: Learns to denoise step-by-step, reconstructing data.



**Figure 1:** Overview of Diffusion Model [1]

# WHAT IS HUGGING FACE DIFFUSERS?

- A library to train or load pre-trained diffusion models easily.
- Built on top of PyTorch Transformers.
- Supports text-to-image, image-to-image, inpainting, and more.
- Comes with ready-to-use pipelines, schedulers, and UNet models.



Steins. (2023, July 11). Diffusion model clearly explained!. Medium.  
<https://medium.com/@steinsfu/diffusion-model-clearly-explained-cd331bd41166>

Thank you