

```
import torch
from diffusers import AutoPipelineForText2Image
from PIL import Image
import os

# Load lightweight Stable Diffusion Turbo model
pipe = AutoPipelineForText2Image.from_pretrained(
    "stabilityai/sd-turbo",
    torch_dtype=torch.float16
)

# Use CPU if GPU not available
device = "cuda" if torch.cuda.is_available() else "cpu"
pipe = pipe.to(device)

# Prompts
prompts = [
    "A small red house in a green forest, digital art",
    "A cute robot sitting on a desk, cartoon style",
    "A futuristic city at night with neon lights",
    "A cat wearing sunglasses, illustration",
    "A mountain landscape during sunrise, realistic photo"
]

# Output directory
output_dir = "synthetic_image_dataset"
os.makedirs(output_dir, exist_ok=True)

# Generate images
for idx, prompt in enumerate(prompts):
    image = pipe(
        prompt=prompt,
        num_inference_steps=4, # very lightweight
        guidance_scale=0.0
    ).images[0]

    image.save(f"{output_dir}/image_{idx+1}.png")

print("Synthetic dataset generated successfully!")
```

Flax classes are deprecated and will be removed in Diffusers v1.0.0. We recommend migrating to PyTorch classes or
Flax classes are deprecated and will be removed in Diffusers v1.0.0. We recommend migrating to PyTorch classes or
/usr/local/lib/python3.12/dist-packages/huggingface_hub/utils/_auth.py:94: UserWarning:
The secret `HF_TOKEN` does not exist in your Colab secrets.

To authenticate with the Hugging Face Hub, create a token in your settings tab (<https://huggingface.co/settings/t>

```
from PIL import Image
import matplotlib.pyplot as plt
```

```
img = Image.open("synthetic_image_dataset/image_1.png")
plt.imshow(img)
plt.axis("off")
```

tokenize([0.5, 0.5], np.float64(511.5), np.float64(511.5), 855/855 [00:00<00:00, 12.4kB/s]



618/618 [00:00<00:00, 8.35kB/s]

574/574 [00:00<00:00, 6.29kB/s]

1.36G/1.36G [02:02<00:00, 16.6MB/s]

655/655 [00:00<00:00, 33.5kB/s]

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5/5 [00:16<00:00, 4.29s/it]

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s 'diffusers.pipelines.stable_diffusion.pipeline_stable_diffusion.S
01<00:00, 3.15it/s]

100% 4/4 [00:00<00:00, 15.17it/s]

Start coding or [generate](#) with AI.

100% 4/4 [00:00<00:00, 14.79it/s]

100% 4/4 [00:00<00:00, 14.98it/s]

Synthetic dataset generated successfully!