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

```
!pip install diffusers --upgrade
```

```
Requirement already satisfied: diffusers in /usr/local/lib/python3.11/dist-packages (0.33.1)
Requirement already satisfied: importlib-metadata in /usr/local/lib/python3.11/dist-packages (from diffusers) (8.6.1)
Requirement already satisfied: filelock in /usr/local/lib/python3.11/dist-packages (from diffusers) (3.17.0)
Requirement already satisfied: huggingface-hub<=0.27.0 in /usr/local/lib/python3.11/dist-packages (from diffusers) (0.28.1)
Requirement already satisfied: numpy in /usr/local/lib/python3.11/dist-packages (from diffusers) (1.26.4)
Requirement already satisfied: regex!=2019.12.17 in /usr/local/lib/python3.11/dist-packages (from diffusers) (2024.11.6)
Requirement already satisfied: requests in /usr/local/lib/python3.11/dist-packages (from diffusers) (2.32.3)
Requirement already satisfied: safetensors<=0.3.1 in /usr/local/lib/python3.11/dist-packages (from diffusers) (0.5.3)
Requirement already satisfied: Pillow in /usr/local/lib/python3.11/dist-packages (from diffusers) (11.1.0)
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Requirement already satisfied: packaging>=20.9 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers) (24.1)
Requirement already satisfied: pyyaml>=5.1 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers) (6.0.2)
Requirement already satisfied: tqdm>=4.42.1 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers) (4.67.1)
Requirement already satisfied: typing-extensions>=3.7.4.3 in /usr/local/lib/python3.11/dist-packages (from huggingface-hub>=0.27.0->diffusers) (4.12.0)
Requirement already satisfied: zipp>=3.20 in /usr/local/lib/python3.11/dist-packages (from importlib-metadata->diffusers) (3.21.0)
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Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.11/dist-packages (from requests->diffusers) (3.10)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.11/dist-packages (from requests->diffusers) (2.3.0)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.11/dist-packages (from requests->diffusers) (2025.1.31)
```

```
!pip install invisible_watermark transformers accelerate safetensors
```

```
Requirement already satisfied: invisible_watermark in /usr/local/lib/python3.11/dist-packages (0.2.0)
Requirement already satisfied: transformers in /usr/local/lib/python3.11/dist-packages (4.48.3)
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Requirement already satisfied: Pillow>=6.0.0 in /usr/local/lib/python3.11/dist-packages (from invisible_watermark) (11.1.0)
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Requirement already satisfied: opencv-python>=4.1.0.25 in /usr/local/lib/python3.11/dist-packages (from invisible_watermark) (4.11.0.86)
Requirement already satisfied: torch in /usr/local/lib/python3.11/dist-packages (from invisible_watermark) (2.5.1+cu124)
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Requirement already satisfied: networkx in /usr/local/lib/python3.11/dist-packages (from torch->invisible_watermark) (3.4.2)
Requirement already satisfied: Jinja2 in /usr/local/lib/python3.11/dist-packages (from torch->invisible_watermark) (3.1.5)
Requirement already satisfied: nvidia-cuda-nvrtc-cu12==12.4.127 in /usr/local/lib/python3.11/dist-packages (from torch->invisible_watermark) (12.4.127)
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Requirement already satisfied: MarkupSafe>=2.0 in /usr/local/lib/python3.11/dist-packages (from Jinja2->torch->invisible_watermark) (3.0.2)
```

```
from diffusers import DiffusionPipeline
import torch
```

```
pipe = DiffusionPipeline.from_pretrained("stabilityai/stable-diffusion-xl-base-1.0", torch_dtype=torch.float16, use_safetensors=True, variant="fp16")
pipe.to("cuda")
```

```
# if using torch < 2.0
# pipe.enable_xformers_memory_efficient_attention()

prompt="Create an image of a futuristic city"

images = pipe(prompt=prompt).images[0]
```



Loading pipeline components...: 100%

7/7 [00:10&lt;00:00, 1.81s/it]

100%

50/50 [00:43&lt;00:00, 1.07it/s]

images



!pip install gradio



Requirement already satisfied: gradio in /usr/local/lib/python3.11/dist-packages (5.25.2)  
 Requirement already satisfied: aiofiles<25.0,>=22.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (24.1.0)  
 Requirement already satisfied: anyio<5.0,>=3.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (3.7.1)  
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Requirement already satisfied: ffmpeg in /usr/local/lib/python3.11/dist-packages (from gradio) (0.5.0)
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Requirement already satisfied: click>=8.0.0 in /usr/local/lib/python3.11/dist-packages (from typer<1.0,>=0.12->gradio) (8.1.8)
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Requirement already satisfied: markdown-it-py>=2.2.0 in /usr/local/lib/python3.11/dist-packages (from rich>=10.11.0->typer<1.0,>=0.12->gradio) (3.0.0)
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Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.11/dist-packages (from requests->huggingface-hub>=0.28.1->gradio) (3.4.0)
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```

```

import gradio as gr
from diffusers import StableDiffusionPipeline, EulerDiscreteScheduler
import torch
model_id = "stabilityai/stable-diffusion-2-1-base"
scheduler = EulerDiscreteScheduler.from_pretrained(model_id, subfolder="scheduler")
pipe = StableDiffusionPipeline.from_pretrained(model_id, scheduler=scheduler, torch_dtype=torch.float16)
pipe = pipe.to("cuda")
def generated_image(prompt):
    image = pipe(prompt).images[0]
    return image
gr.Interface(
    fn=generated_image,
    inputs=gr.Textbox(label="Enter your prompt"),
    outputs=gr.Image(type="pil"),
    title="Stable Diffusion 2.1 - AVI IMAGE GENERATOR APP",
    description="Enter text prompt and see the generated image"
).launch()

```



Loading pipeline components...: 100%

6/6 [00:36&lt;00:00, 6.12s/it]

It looks like you are running Gradio on a hosted a Jupyter notebook. For the Gradio app to work, sharing must be enabled. Automatically

Colab notebook detected. To show errors in colab notebook, set debug=True in launch()

\* Running on public URL: <https://47c7e8764e54804e37.gradio.live>

This share link expires in 1 week. For free permanent hosting and GPU upgrades, run `gradio deploy` from the terminal in the working dir

## Stable Diffusion 2.1 - AVI IMAGE GENERATOR APP

Enter text prompt and see the generated image

Enter your prompt

A horse riding a skateboard

Clear

Submit

output

