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!pip install diffusers transformers accelerate torch torchvision safetensors
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Requirement already satisfied: diffusers in  
/usr/local/lib/python3.12/dist-packages (0.34.0)  
Requirement already satisfied: transformers in  
/usr/local/lib/python3.12/dist-packages (4.55.2)  
Requirement already satisfied: accelerate in  
/usr/local/lib/python3.12/dist-packages (1.10.0)  
Requirement already satisfied: torch in  
/usr/local/lib/python3.12/dist-packages (2.8.0+cu126)  
Requirement already satisfied: torchvision in  
/usr/local/lib/python3.12/dist-packages (0.23.0+cu126)  
Requirement already satisfied: safetensors in  
/usr/local/lib/python3.12/dist-packages (0.6.2)  
Requirement already satisfied: importlib_metadata in  
/usr/local/lib/python3.12/dist-packages (from diffusers) (8.7.0)  
Requirement already satisfied: filelock in  
/usr/local/lib/python3.12/dist-packages (from diffusers) (3.19.1)  
Requirement already satisfied: huggingface-hub>=0.27.0 in  
/usr/local/lib/python3.12/dist-packages (from diffusers) (0.34.4)  
Requirement already satisfied: numpy in  
/usr/local/lib/python3.12/dist-packages (from diffusers) (2.0.2)  
Requirement already satisfied: regex!=2019.12.17 in  
/usr/local/lib/python3.12/dist-packages (from diffusers) (2024.11.6)  
Requirement already satisfied: requests in  
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Requirement already satisfied: Pillow in  
/usr/local/lib/python3.12/dist-packages (from diffusers) (11.3.0)  
Requirement already satisfied: packaging>=20.0 in  
/usr/local/lib/python3.12/dist-packages (from transformers) (25.0)  
Requirement already satisfied: pyyaml>=5.1 in  
/usr/local/lib/python3.12/dist-packages (from transformers) (6.0.2)  
Requirement already satisfied: tokenizers<0.22,>=0.21 in  
/usr/local/lib/python3.12/dist-packages (from transformers) (0.21.4)  
Requirement already satisfied: tqdm>=4.27 in  
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Requirement already satisfied: psutil in  
/usr/local/lib/python3.12/dist-packages (from accelerate) (5.9.5)  
Requirement already satisfied: typing-extensions>=4.10.0 in  
/usr/local/lib/python3.12/dist-packages (from torch) (4.14.1)  
Requirement already satisfied: setuptools in  
/usr/local/lib/python3.12/dist-packages (from torch) (75.2.0)  
Requirement already satisfied: sympy>=1.13.3 in  
/usr/local/lib/python3.12/dist-packages (from torch) (1.13.3)  
Requirement already satisfied: networkx in  
/usr/local/lib/python3.12/dist-packages (from torch) (3.5)  
Requirement already satisfied: jinja2 in  
/usr/local/lib/python3.12/dist-packages (from torch) (3.1.6)  
Requirement already satisfied: fsspec in
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/usr/local/lib/python3.12/dist-packages (from torch) (2025.3.0)
Requirement already satisfied: nvidia-cuda-nvrtc-cu12==12.6.77 in
/usr/local/lib/python3.12/dist-packages (from torch) (12.6.77)
Requirement already satisfied: nvidia-cuda-runtime-cu12==12.6.77 in
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Requirement already satisfied: nvidia-cuda-cupti-cu12==12.6.80 in
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Requirement already satisfied: nvidia-cudnn-cu12==9.10.2.21 in
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Requirement already satisfied: nvidia-cublas-cu12==12.6.4.1 in
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Requirement already satisfied: nvidia-cufft-cu12==11.3.0.4 in
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Requirement already satisfied: nvidia-curand-cu12==10.3.7.77 in
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Requirement already satisfied: nvidia-cusolver-cu12==11.7.1.2 in
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Requirement already satisfied: nvidia-nccl-cu12==2.27.3 in
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Requirement already satisfied: nvidia-nvtx-cu12==12.6.77 in
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Requirement already satisfied: nvidia-cufile-cu12==1.11.1.6 in
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Requirement already satisfied: triton==3.4.0 in
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Requirement already satisfied: hf-xet<2.0.0,>=1.1.3 in
/usr/local/lib/python3.12/dist-packages (from huggingface-hub>=0.27.0-
>diffusers) (1.1.7)
Requirement already satisfied: mpmath<1.4,>=1.1.0 in
/usr/local/lib/python3.12/dist-packages (from sympy>=1.13.3->torch)
(1.3.0)
Requirement already satisfied: zipp>=3.20 in
/usr/local/lib/python3.12/dist-packages (from importlib_metadata-
>diffusers) (3.23.0)
Requirement already satisfied: MarkupSafe>=2.0 in
/usr/local/lib/python3.12/dist-packages (from jinja2->torch) (3.0.2)
Requirement already satisfied: charset-normalizer<4,>=2 in
/usr/local/lib/python3.12/dist-packages (from requests->diffusers)
(3.4.3)
Requirement already satisfied: idna<4,>=2.5 in
/usr/local/lib/python3.12/dist-packages (from requests->diffusers)
(3.10)
Requirement already satisfied: urllib3<3,>=1.21.1 in
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/usr/local/lib/python3.12/dist-packages (from requests->diffusers)
(2.5.0)
Requirement already satisfied: certifi>=2017.4.17 in
/usr/local/lib/python3.12/dist-packages (from requests->diffusers)
(2025.8.3)

#let's prepare the pipeline for AI Image Generation using Diffusion
Models.

import torch
from diffusers import StableDiffusionPipeline,
EulerAncestralDiscreteScheduler

device = "cuda" if torch.cuda.is_available() else ("mps" if
torch.backends.mps.is_available() else "cpu")

model_id = "runwayml/stable-diffusion-v1-5"
pipe = StableDiffusionPipeline.from_pretrained(model_id,
torch_dtype=torch.float16 if device=="cuda" else torch.float32)

pipe.scheduler =
EulerAncestralDiscreteScheduler.from_config(pipe.scheduler.config)

if device == "cuda":
    pipe = pipe.to(device)
    pipe.enable_attention_slicing()
else:
    pipe.to(device)

{"model_id":"fd4be8ed273a464cb85bbe3e5ed5d124","version_major":2,"vers
ion_minor":0}

# Prompt through which we are creating the image.

prompt = "ultra-detailed image of a blue car with beautiful girl,
cinematic lighting, 35mm"
negative_prompt = "blurry, lowres, jpeg artifacts, extra fingers,
text, watermark"

# let's create the image with some key parameters

image = pipe(
    prompt=prompt,
    negative_prompt=negative_prompt,
    num_inference_steps=30,      # 20-35 is a good range
    guidance_scale=7.5,         # 5-9 usually
    height=512,
    width=512,
    generator=torch.Generator(device=device).manual_seed(42)
).images[0]

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image.save("generated_image.png")

{"model_id": "3506d1de00b443048b5ffd788e6594d7", "version_major": 2, "version_minor": 0}

# out image that generated from text to image.

import matplotlib.pyplot as plt

plt.imshow(image)
plt.show()
```

