```
#!pip install git+https://github.com/huggingface/diffusers.git
#!pip install transformers accelerate torch
```

+ Code + Text

```
import torch
from diffusers import DiffusionPipeline, DPMSolverMultistepScheduler
from diffusers.utils import export_to_video
import numpy as np # Import numpy
import imageio # Import imageio

pipe = DiffusionPipeline.from_pretrained("cerspense/zeroscope_v2_576w", torch_dtype=torch.float16)
pipe.scheduler = DPMSolverMultistepScheduler.from_config(pipe.scheduler.config)
pipe.enable_model_cpu_offload()
pipe.enable_vae_slicing()
pipe.unet.enable_forward_chunking(chunk_size=1, dim=1) # disable if enough memory as this slows down significantly

prompt = "A boy kiss a Girl"
video_frames = pipe(prompt, num_inference_steps=40, height=320, width=576, num_frames=36).frames

# Convert the video frames to uint8 format and remove the batch dimension (the first dimension)
video_frames = (video_frames[0] * 255).astype(np.uint8)

# Manually export to video using imageio
output_video_path = "output.mp4"
fps = 10 # You can adjust the frame rate as needed

with imageio.get_writer(output_video_path, fps=fps) as writer:
    for frame in video_frames:
        # Each frame should now have the shape (height, width, channels)
        writer.append_data(frame)

video_path = output_video_path # Update video_path to the path of the manually created video
```

```
Loading pipeline components...: 100%  5/5 [00:12<00:00,  3.94s/it]
An error occurred while trying to fetch /root/.cache/huggingface/hub/models--cerspense--zeroscope_v2_576w/snapshots/6963642a64dbefa9
Defaulting to unsafe serialization. Pass `allow_pickle=False` to raise an error instead.
An error occurred while trying to fetch /root/.cache/huggingface/hub/models--cerspense--zeroscope_v2_576w/snapshots/6963642a64dbefa9
Defaulting to unsafe serialization. Pass `allow_pickle=False` to raise an error instead.
100%  40/40 [05:27<00:00,  8.05s/it]
```

```
!pip install torch torchvision torchaudio --index-url https://download.pytorch.org/whl/cu118
!pip install diffusers imageio numpy streamlit
```

```
Looking in indexes: https://download.pytorch.org/whl/cu118
Requirement already satisfied: torch in /usr/local/lib/python3.11/dist-packages (2.6.0+cu124)
Requirement already satisfied: torchvision in /usr/local/lib/python3.11/dist-packages (0.21.0+cu124)
Requirement already satisfied: torchaudio in /usr/local/lib/python3.11/dist-packages (2.6.0+cu124)
Requirement already satisfied: filelock in /usr/local/lib/python3.11/dist-packages (from torch) (3.18.0)
Requirement already satisfied: typing-extensions>=4.10.0 in /usr/local/lib/python3.11/dist-packages (from torch) (4.13.2)
Requirement already satisfied: networkx in /usr/local/lib/python3.11/dist-packages (from torch) (3.5)
Requirement already satisfied: jinja2 in /usr/local/lib/python3.11/dist-packages (from torch) (3.1.6)
Requirement already satisfied: fsspec in /usr/local/lib/python3.11/dist-packages (from torch) (2025.3.2)
INFO: pip is looking at multiple versions of torch to determine which version is compatible with other requirements. This could t
Collecting torch
  Downloading https://download.pytorch.org/whl/cu118/torch-2.7.1%2Bcu118-cp311-cp311-manylinux_2_28_x86_64.whl.metadata (28 kB)
Collecting sympy>=1.13.3 (from torch)
  Downloading https://download.pytorch.org/whl/sympy-1.13.3-py3-none-any.whl.metadata (12 kB)
Collecting nvidia-cuda-nvrtc-cu11==11.8.89 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cuda_nvrtc_cu11-11.8.89-py3-none-manylinux1_x86_64.whl (23.2 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 23.2/23.2 MB 103.3 MB/s eta 0:00:00
Collecting nvidia-cuda-runtime-cu11==11.8.89 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cuda_runtime_cu11-11.8.89-py3-none-manylinux1_x86_64.whl (875 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 875.6/875.6 kB 60.5 MB/s eta 0:00:00
Collecting nvidia-cuda-cupti-cu11==11.8.87 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cuda_cupti_cu11-11.8.87-py3-none-manylinux1_x86_64.whl (13.1 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 13.1/13.1 MB 120.5 MB/s eta 0:00:00
Collecting nvidia-cudnn-cu11==9.1.0.70 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cudnn_cu11-9.1.0.70-py3-none-manylinux2014_x86_64.whl (663.9 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 663.9/663.9 MB 1.3 MB/s eta 0:00:00
Collecting nvidia-cublas-cu11==11.11.3.6 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cublas_cu11-11.11.3.6-py3-none-manylinux1_x86_64.whl (417.9 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 417.9/417.9 MB 3.7 MB/s eta 0:00:00
Collecting nvidia-cufft-cu11==10.9.0.58 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cufft_cu11-10.9.0.58-py3-none-manylinux1_x86_64.whl (168.4 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 168.4/168.4 MB 6.5 MB/s eta 0:00:00
Collecting nvidia-curand-cu11==10.3.0.86 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_curand_cu11-10.3.0.86-py3-none-manylinux1_x86_64.whl (58.1 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 58.1/58.1 MB 13.5 MB/s eta 0:00:00
Collecting nvidia-cusolver-cu11==11.4.1.48 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cusolver_cu11-11.4.1.48-py3-none-manylinux1_x86_64.whl (128.2 MB)
```

```
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 128.2/128.2 MB 7.5 MB/s eta 0:00:00
Collecting nvidia-cusparse-cu11==11.7.5.86 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_cusparse_cu11-11.7.5.86-py3-none-manylinux1_x86_64.whl (204.1 MB)
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Collecting nvidia-nccl-cu11==2.21.5 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_nccl_cu11-2.21.5-py3-none-manylinux2014_x86_64.whl (147.8 MB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 147.8/147.8 MB 6.8 MB/s eta 0:00:00
Collecting nvidia-nvtx-cu11==11.8.86 (from torch)
  Downloading https://download.pytorch.org/whl/cu118/nvidia_nvtx_cu11-11.8.86-py3-none-manylinux1_x86_64.whl (99 kB)
     ━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━ 99.1/99.1 kB 8.1 MB/s eta 0:00:00
Collecting triton==3.3.1 (from torch)
  Downloading https://download.pytorch.org/whl/triton-3.3.1-cp311-cp311-manylinux_2_27_x86_64.manylinux_2_28_x86_64.whl.metadata
Requirement already satisfied: setuptools>=40.8.0 in /usr/local/lib/python3.11/dist-packages (from triton==3.3.1->torch) (75.2.0
Requirement already satisfied: numpy in /usr/local/lib/python3.11/dist-packages (from torchvision) (2.0.2)
Requirement already satisfied: pillow!=8.3.*,>=5.3.0 in /usr/local/lib/python3.11/dist-packages (from torchvision) (11.2.1)
Collecting torch
  Downloading https://download.pytorch.org/whl/cu118/torch-2.6.0%2Bcu118-cp311-cp311-linux_x86_64.whl.metadata (27 kB)
Requirement already satisfied: triton==3.2.0 in /usr/local/lib/python3.11/dist-packages (from torch) (3.2.0)
Requirement already satisfied: sympy==1.13.1 in /usr/local/lib/python3.11/dist-packages (from torch) (1.13.1)
Requirement already satisfied: mpmath<1.4,>=1.1.0 in /usr/local/lib/python3.11/dist-packages (from sympy==1.13.1->torch) (1.3.0)
```

```
%%writefile text_to_video_app.py
import streamlit as st
import torch
from diffusers import DiffusionPipeline, DPMSolverMultistepScheduler
import numpy as np
import imageio

st.set_page_config(page_title="Text to Video Generator", layout="centered")
st.title("🎬 Text-to-Video Generator")
st.caption("Powered by 🤗 Diffusers and ZeroScope model")

prompt = st.text_area("Enter your prompt",
                      "A serene sunset over a tranquil mountain lake, with golden light reflecting on the water...")

with st.expander("⚙️ Advanced Settings"):
    num_inference_steps = st.slider("Number of Inference Steps", 10, 100, 40)
    num_frames = st.slider("Number of Frames", 8, 72, 36)
    height = st.slider("Video Height", 128, 512, 320, step=32)
    width = st.slider("Video Width", 256, 640, 576, step=32)
    fps = st.slider("FPS (Frames Per Second)", 1, 30, 10)

if st.button("🎥 Generate Video"):
    with st.spinner("Generating video... please wait ⏳"):
        pipe = DiffusionPipeline.from_pretrained(
            "cerspense/zeroscope_v2_576w", torch_dtype=torch.float16
        )
        pipe.scheduler = DPMSolverMultistepScheduler.from_config(pipe.scheduler.config)
        pipe.enable_model_cpu_offload()
        pipe.enable_vae_slicing()
        pipe.unet.enable_forward_chunking(chunk_size=1, dim=1)

        video_output = pipe(
            prompt,
            num_inference_steps=num_inference_steps,
            height=height,
            width=width,
            num_frames=num_frames
        )
        frames = video_output.frames[0]
        frames = (frames * 255).astype(np.uint8)

        output_video_path = "generated_video.mp4"
        with imageio.get_writer(output_video_path, fps=fps) as writer:
            for frame in frames:
                writer.append_data(frame)

        st.success("✅ Video generation complete!")
        st.video(output_video_path)

        with open(output_video_path, "rb") as video_file:
            st.download_button("⬇️ Download Video", video_file, file_name="text2video.mp4", mime="video/mp4")
```

```
Writing text_to_video_app.py
```

```
! ngrok config add-authtoken 2qmk5ivz6gKuM52FBcKQ8yw7v3b_7kkr2RNShyxvxaacMbAif
```

```
Authtoken saved to configuration file: /root/.config/ngrok/ngrok.yml
```

```
!pip install --quiet pyngrok
```

```
from pyngrok import ngrok

# Kill previous tunnels (if any)
!pkill streamlit

# Replace "YOUR_NGROK_AUTH_TOKEN" with your actual authtoken
# Get your authtoken from

ngrok.set_auth_token("2qmk5ivz6gKuM52FBcKQ8yw7v3b_7kkr2RNShyxvxaacMbAif")

# Open a tunnel
public_url = ngrok.connect(addr=8501)
print(f"🌐 Open this URL to access the app: {public_url}")

# Run Streamlit app
!streamlit run text_to_video_app.py &> streamlit.log &
```

```
🌐 Open this URL to access the app: NgrokTunnel: "https://90da-34-125-223-167.ngrok-free.app" -> "http://localhost:8501"
```

Start coding or generate with AI.