

Creating videos from gymnasium simulations

Hugo Touchette

Started: 7 July 2022

Last updated: 21 May 2025

Python 3

Video saved in folder

Import

```
In [ ]: import gymnasium as gym
        from minigrid.wrappers import ImgObsWrapper # Needed only for the m
```

Test

```
In [ ]: folder = 'recording1'
        env = gym.make('MiniGrid-Empty-8x8-v0', render_mode='rgb_array')
        env = gym.wrappers.RecordVideo(env, video_folder=folder, episode_tr
        env = ImgObsWrapper(env) # Needed only for the minigrid application
        obs, info = env.reset()

        while True:
            obs, rew, done, truncated, info = env.step(env.action_space.sam
            if done or truncated:
                break

        env.close()
```

```
/opt/miniconda3/lib/python3.10/site-packages/gymnasium/wrappers/reco
rd_video.py:87: UserWarning: WARN: Overwriting existing videos at /U
sers/ht/archive/cours/SUN/ML818-RL/demos/gymnasium/videos/recording1
folder (try specifying a different `video_folder` for the `RecordVid
eo` wrapper if this is not desired)
```

```
    logger.warn(
```

```
MoviePy - Building video /Users/ht/archive/cours/SUN/ML818-RL/demos/
gymnasium/videos/recording1/rl-video-episode-0.mp4.
```

```
MoviePy - Writing video /Users/ht/archive/cours/SUN/ML818-RL/demos/g
ymnasium/videos/recording1/rl-video-episode-0.mp4
```

MoviePy – Done !

MoviePy – video ready /Users/ht/archive/cours/SUN/ML818–RL/demos/gymnasium/videos/recording1/rl-video-episode-0.mp4

Video embedded in Jupyter

Additional import

```
In [1]: from minigrid.wrappers import ImgObsWrapper
import base64
import glob
import io
from IPython.display import HTML
from IPython import display
```

Export function

This function loads the mp4 generated as an embedded video. This works if Jupyter loaded in browser, in VS code, and in colab.

```
In [3]: def show_video(folder):
    mp4list = glob.glob(folder+'/*.mp4')
    if len(mp4list) > 0:
        mp4 = mp4list[0]
        video = io.open(mp4, 'r+b').read()
        encoded = base64.b64encode(video)
        display.display(HTML(data='''<video alt="test" autoplay
            loop controls style="height: 400px;">
            <source src="data:video/mp4;base64,{0}" type="video
            </video>'''.format(encoded.decode('ascii'))))
    else:
        print("Could not find video")
```

Test

```
In [ ]: folder = 'recording2'
env = gym.make('MiniGrid-Empty-8x8-v0', render_mode='rgb_array')
env = gym.wrappers.RecordVideo(env, video_folder=folder, episode_tr
env = ImgObsWrapper(env) # Needed only for the minigrid application
env.reset()

while True:
    obs, rew, done, truncated, info = env.step(env.action_space.sam
    if done or truncated:
        break

env.close()
```

```
show_video(folder)
```

MoviePy - Building video /Users/ht/archive/cours/SUN/ML818-RL/demos/gymnasium/videos/recording2/rl-video-episode-0.mp4.

MoviePy - Writing video /Users/ht/archive/cours/SUN/ML818-RL/demos/gymnasium/videos/recording2/rl-video-episode-0.mp4

MoviePy - Done !

MoviePy - video ready /Users/ht/archive/cours/SUN/ML818-RL/demos/gymnasium/videos/recording2/rl-video-episode-0.mp4

0:01

0:25

In []: