

Deep Q Learning: From Paper to Code

Open AI Gym Environment Wrapping

Last Time ...

- Deep dive of paper
- Preprocessing is central to success
- This is optional! Can just clone my git

What We Need to Accomplish

- Go from 3 channels to 1 (grayscale)
- Downscale to 84x84 pixels
- Take max of previous 2 frames
- Repeat action 4 times
- Swap channels to first position
- Stack 4 frames
- Scale inputs

Additional Details ...

- Have to derive from base classes
- `gym.Wrapper` → use for the step function
- `gym.ObservationWrapper` → preprocessing and stacking

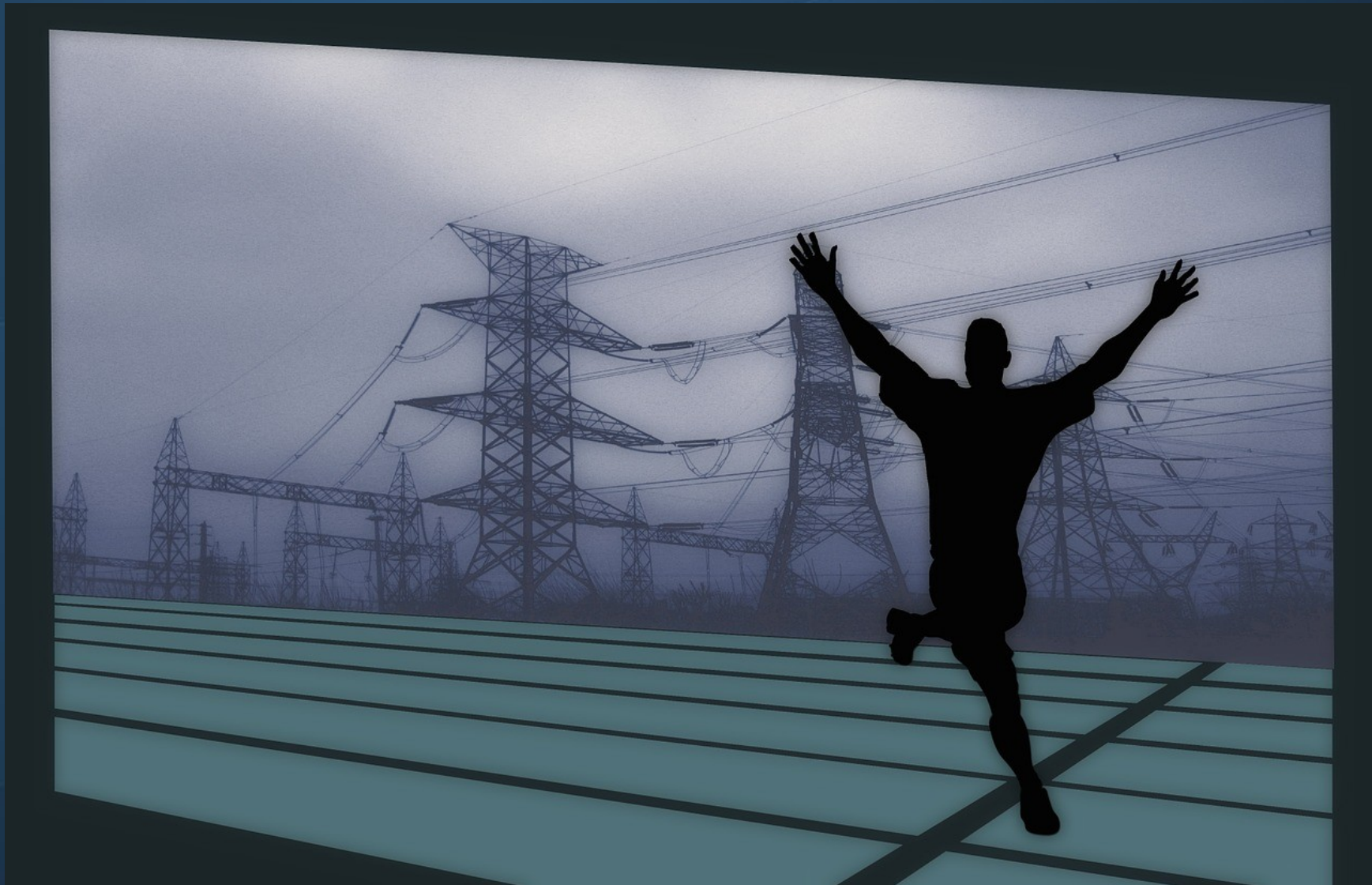
Things to Keep in Mind

- What algorithm?
- What data structures?
- Our code should be modular
- Let's start with the two frame max and action repeat

Implementation Tips

- Use combination of numpy arrays and dequeues
- BreakoutNoFrameskip-v4 or PongNoFrameskip-v4
 - Avoid random action repeat and random actions
 - Actions deterministic and no frame skip
- Check out Gym source code or Pakt code for inspiration

Phew ...



Up Next

