Lecture 2: Playing OpenAI GYM Games

Reinforcement Learning with TensorFlow\OpenAI Gym
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Frozen Lake World (OpenAI GYM)

(1) Action (right, left, up, down)

(2) state, reward

Agent

Environment
Frozen Lake World (OpenAI GYM)

(1) action: RIGHT

(2) state: 1, reward: 0
Frozen Lake World (OpenAI GYM)

Agent → Environment
(1) Action (Right, left, up, down)
(2) state, reward
OpenAI Gym  BETA

A toolkit for developing and comparing reinforcement learning algorithms. It supports teaching agents everything from walking to playing games like Pong or Go.

Read the launch blog post ›
View documentation ›
View on GitHub ›

https://gym.openai.com/
We provide the environment; you provide the algorithm. You can write your agent using your existing numerical computation library, such as TensorFlow or Theano.

https://gym.openai.com/
Frozen Lake World (OpenAI GYM)

(1) Action (Right, left, up, down)

(2) state (observation), reward

```python
import gym
env = gym.make("FrozenLake-v0")
observation = env.reset()
for _ in range(1000):
    env.render()
    action = env.action_space.sample()  # your agent here (this takes random actions)
    observation, reward, done, info = env.step(action)
```

Solution

True

False
Frozen Lake World (OpenAI GYM)

(1) Action (Right, left, up, down)

(2) state, reward
NEXT: Try Frozen Lake Real Game?
Next Lab Playing GYM game
Lab 2: Playing OpenAI Gym Games

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