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**blobrl**

**Jan 16, 2021**



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### 1.1 Installation of pytorch

For installing *pytorch* follow [Quick Start Locally](#) for your config.

### 1.2 Installation of blobrl

Download files:

```
git clone https://github.com/french-ai/reinforcement.git
```

Move to reinforcement directory:

```
cd reinforcement
```

Install blobrl

- to use it:

```
pip install .
```

- to help development:

```
pip install ".[dev]" .
```



## CHAPTER 2

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Getting started

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## CHAPTER 3

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### Install BlobRL

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Follow [installation](#).

### 3.1 Initializing an environment

```
import gym
env = gym.make("CartPole-v1")
```

### 3.2 Initializing an agent

```
from blobrl.agents import AgentRandom
action_space = env.action_space
observation_space = env.observation_space
agent = AgentRandom(observation_space=observation_space, action_space=action_space)
```

### 3.3 Training

Create Trainer

```
from blobrl import Trainer
trainer = Trainer(environment=env, agent=agent)
```

Start training:

```
trainer.train(render=True)
```

Visualize training metrics:

```
tensorboard --logdir runs
```

## 3.4 Evaluation

*Not implemented yet*

## CHAPTER 4

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### Trainer – train.py

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You can start training by using train.py.



## CHAPTER 5

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### Training

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Go to blobrl directory

```
cd blobrl
```

start training

```
python train.py
```



## CHAPTER 6

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### Parameters

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–agent:

StringDefault : agent\_randomName of agent listed [*agent\_random*, *dqn*, *double\_dqn*, *categorical\_dqn*]

–env:

StringDefault : CartPole-v1Name of gym environment listed in [gyms.openai.com](https://gym.openai.com)

–max\_episode

IntegerDefault : 100Number of episode to train

–render

BooleanDefault : FalseShow render on each step or not





## CHAPTER 7

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### Exemples

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Start training with DQN on CartPole-v1 with 1000 episodes and show environment

```
python train.py --agent dqn --env CartPole-v1 --render 1 --max_episode 1000
```



## CHAPTER 8

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Agent interface

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## CHAPTER 9

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Agent\_random

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## CHAPTER 10

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DQN

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## CHAPTER 11

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Double\_dqn

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## CHAPTER 12

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Categorical\_dqn

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## CHAPTER 13

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Explorations package

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**13.1 Greedy\_exploration\_interface**

**13.2 Adaptive\_epsilon\_greedy**

**13.3 Epsilon\_greedy**

**13.4 Greedy**



## CHAPTER 14

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Memories package

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**14.1 Memory\_interface**

**14.2 Experience\_replay**





## CHAPTER 15

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### Environments package

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We use gym environment to begin.

You can see [gymnasium.openai.com](https://gymnasium.openai.com) for more informations.

We will add more environment.



## CHAPTER 16

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Base\_network

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## CHAPTER 17

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Simple\_network

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## CHAPTER 18

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C51\_network

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## CHAPTER 19

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### Indices and tables

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