

```
Last login: Wed Apr  1 18:44:37 on ttys001
Run-Mac:~ mac$ cd ~/.ssh
Run-Mac:~.ssh mac$ ssh -i "Runzhe_Song_0110.pem" ubuntu@ec2-35-168-113-206.compute-1.amazonaws.com
Warning: Permanently added the ED25519 host key for IP address '35.168.113.206' to the list of known hosts.
Welcome to Ubuntu 18.04.3 LTS (GNU/Linux 4.15.0-1063-aws x86_64)
```

```
* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:        https://ubuntu.com/advantage
```

System information as of Wed Apr 1 23:25:28 UTC 2020

```
System load:  0.89          Processes:      374
Usage of /:   56.9% of 15.45GB Users logged in:  0
Memory usage: 0%           IP address for ens5: 172.31.70.107
Swap usage:   0%
```

```
* Kubernetes 1.18 GA is now available! See https://microk8s.io for docs or
install it with:
```

```
sudo snap install microk8s --channel=1.18 --classic
```

```
* Multipass 1.1 adds proxy support for developers behind enterprise
firewalls. Rapid prototyping for cloud operations just got easier.
```

```
https://multipass.run/
```

```
* Canonical Livepatch is available for installation.
- Reduce system reboots and improve kernel security. Activate at:
https://ubuntu.com/livepatch
```

```
53 packages can be updated.
0 updates are security updates.
```

```
Last login: Wed Apr  1 20:30:39 2020 from 107.13.161.147
ubuntu@ip-172-31-70-107:~$ export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
19:26, 04/01; num of cores:36
```

```
Basic setting:[T, sd_0, sd_D, sd_R, sd_u_0, w_0, w_A, [M_in_R, mean_reversion, pois0, simple, u_0_u_D]] = [None, 10, 10
, 10, 0.3, 0.5, 1, [True, False, True, False, 10]]
```

```
-----
[pattern_seed, day] = [2, 14]
```

```
max(u_0) = 197.9
0_threshold = 70
means of Order:
```

```
87.8 97.8 52.4 162.7 58.1
```

```
77.3 115.7 68.5 72.4 75.7
```

```
117.4 197.9 100.7 71.1 116.9
```

```
83.2 98.9 141.5 79.5 99.8
```

```
76.4 94.9 107.4 73.9 89.9
```

```
target policy:
```

```
1 1 0 1 0
```

```
1 1 0 1 1
```

```
1 1 1 1 1
```

```
1 1 1 1 1
```

```
1 1 1 1 1
```

```
number of reward locations: 22
```

```
0_threshold = 80
```

```
target policy:
```

```
1 1 0 1 0
```

0 1 0 0 0

1 1 1 0 1

1 1 1 0 1

0 1 1 0 1

number of reward locations: 15

`O_threshold = 90`

target policy:

0 1 0 1 0

0 1 0 0 0

1 1 1 0 1

0 1 1 0 1

0 1 1 0 0

number of reward locations: 12

`O_threshold = 100`

target policy:

0 0 0 1 0

0 1 0 0 0

1 1 1 0 1

0 0 1 0 0

0 0 1 0 0

number of reward locations: 8

`O_threshold = 110`

target policy:

0 0 0 1 0

0 1 0 0 0

1 1 0 0 1

0 0 1 0 0

0 0 0 0 0

number of reward locations: 6

Rep 1 DONE; ^CProcess Process-269:

Traceback (most recent call last):

File "EC2.py", line 72, in <module>

Process Process-273:

Process Process-274:

Process Process-276:

print\_flag\_target = False

File "/home/ubuntu/simu\_funs.py", line 62, in simu

Process Process-261:

value\_reps = rep\_seeds(once, OPE\_rep\_times)

File "/home/ubuntu/\_uti\_basic.py", line 119, in rep\_seeds

return list(map(fun, range(rep\_times)))

File "/home/ubuntu/simu\_funs.py", line 58, in once

inner\_parallel = inner\_parallel)

File "/home/ubuntu/simu\_funs.py", line 201, in simu\_once

inner\_parallel = inner\_parallel)

File "/home/ubuntu/main.py", line 130, in V\_DR

r = arr(parmap(getOneRegionValue, range(N), n\_cores))

File "/home/ubuntu/\_uti\_basic.py", line 75, in parmap

[q\_in.put((None, None)) for \_ in range(nprocs)]

File "/home/ubuntu/\_uti\_basic.py", line 75, in <listcomp>

[q\_in.put((None, None)) for \_ in range(nprocs)]

File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/queues.py", line 82, in put

if not self.\_sem.acquire(block, timeout):

KeyboardInterrupt

Traceback (most recent call last):

Traceback (most recent call last):

Traceback (most recent call last):

Traceback (most recent call last):

Traceback (most recent call last):

```
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/main.py", line 85, in getOneRegionValue
    spatial = False)
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/main.py", line 85, in getOneRegionValue
    spatial = False)
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/main.py", line 85, in getOneRegionValue
    spatial = False)
File "/home/ubuntu/main.py", line 85, in getOneRegionValue
    spatial = False)
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/main.py", line 85, in getOneRegionValue
    spatial = False)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
```

```

run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
KeyboardInterrupt
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
KeyboardInterrupt
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
KeyboardInterrupt
KeyboardInterrupt
KeyboardInterrupt
ubuntu@ip-172-31-70-107:~$ export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
19:32, 04/01; num of cores:36

```

Basic setting:[T, sd\_0, sd\_D, sd\_R, sd\_u\_0, w\_0, w\_A, [M\_in\_R, mean\_reversion, pois0, simple, u\_0\_u\_D]] = [None, 10, 10, 10, 0.3, 0.5, 1, [True, False, True, False, 10]]

---

```
[pattern_seed, day] = [2, 14]
```

```

max(u_0) = 197.9
0_threshold = 70
means of Order:

```

```
87.8 97.8 52.4 162.7 58.1
```

```
77.3 115.7 68.5 72.4 75.7
```

```
117.4 197.9 100.7 71.1 116.9
```

```
83.2 98.9 141.5 79.5 99.8
```

```
76.4 94.9 107.4 73.9 89.9
```

target policy:

1 1 0 1 0

1 1 0 1 1

1 1 1 1 1

1 1 1 1 1

1 1 1 1 1

number of reward locations: 22

0\_threshold = 80

target policy:

1 1 0 1 0

0 1 0 0 0

1 1 1 0 1

1 1 1 0 1

0 1 1 0 1

number of reward locations: 15

0\_threshold = 90

target policy:

0 1 0 1 0

0 1 0 0 0

1 1 1 0 1

0 1 1 0 1

0 1 1 0 0

number of reward locations: 12

0\_threshold = 100

target policy:

0 0 0 1 0

0 1 0 0 0

1 1 1 0 1

0 0 1 0 0

0 0 1 0 0

number of reward locations: 8

0\_threshold = 110

target policy:

0 0 0 1 0

0 1 0 0 0

1 1 0 0 1

0 0 1 0 0

0 0 0 0 0

number of reward locations: 6

Rep 1 DONE; Rep 2 DONE; Rep 3 DONE; Rep 4 DONE; ^CTraceback (most recent call last):

Process Process-851:

File "EC2.py", line 72, in <module>

Process Process-849:

print\_flag\_target = False

Process Process-837:

File "/home/ubuntu/simu\_funs.py", line 62, in simu

Process Process-864:

```

    value_reps = rep_seeds(once, OPE_rep_times)
File "/home/ubuntu/_uti_basic.py", line 119, in rep_seeds
Process Process-850:
    return list(map(fun, range(rep_times)))
File "/home/ubuntu/simu_funs.py", line 58, in once
Process Process-848:
Process Process-835:
    inner_parallel = inner_parallel)
File "/home/ubuntu/simu_funs.py", line 201, in simu_once
    inner_parallel = inner_parallel)
Process Process-830:
File "/home/ubuntu/main.py", line 130, in V_DR
    r = arr(parmap(getOneRegionValue, range(N), n_cores))
File "/home/ubuntu/_uti_basic.py", line 75, in parmap
    [q_in.put((None, None)) for _ in range(nprocs)]
Process Process-845:
File "/home/ubuntu/_uti_basic.py", line 75, in <listcomp>
Process Process-842:
    [q_in.put((None, None)) for _ in range(nprocs)]
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/queues.py", line 82, in put
    if not self._sem.acquire(block, timeout):
KeyboardInterrupt
Process Process-838:
Process Process-847:
Process Process-843:
Process Process-834:
Process Process-831:
Process Process-836:
Process Process-833:
Process Process-852:
Traceback (most recent call last):
Process Process-839:
Traceback (most recent call last):
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/main.py", line 59, in getOneRegionValue
    epsilon = epsilon)
Process Process-846:
File "/home/ubuntu/main.py", line 59, in getOneRegionValue
    epsilon = epsilon)
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
Process Process-853:
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
Traceback (most recent call last):
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
Process Process-829:
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call

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    return fn(*args)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
KeyboardInterrupt
KeyboardInterrupt
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/main.py", line 59, in getOneRegionValue
    epsilon = epsilon)
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/weight.py", line 290, in train
    policy_ratio = (PI1[subsamples] + epsilon)/(PI0[subsamples] + epsilon)
KeyboardInterrupt
Traceback (most recent call last):
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/main.py", line 59, in getOneRegionValue
    epsilon = epsilon)
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
Traceback (most recent call last):
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
Process Process-840:
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun
    run_metadata)
Process Process-841:
KeyboardInterrupt
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
File "/home/ubuntu/main.py", line 59, in getOneRegionValue
    epsilon = epsilon)
File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 950, in run
    run_metadata_ptr)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run
    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
    run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
    return fn(*args)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1341, in _run_fn
    options, feed_dict, fetch_list, target_list, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun

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    run_metadata)
KeyboardInterrupt
Traceback (most recent call last):
  File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 297, in _bootstrap
    self.run()
  File "/home/ubuntu/anaconda3/lib/python3.7/multiprocessing/process.py", line 99, in run
    self._target(*self._args, **self._kwargs)
  File "/home/ubuntu/_uti_basic.py", line 62, in fun
    q_out.put((i, f(x)))
  File "/home/ubuntu/main.py", line 59, in getOneRegionValue
    epsilon = epsilon)
  File "/home/ubuntu/main.py", line 236, in getWeight
    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
  File "/home/ubuntu/weight.py", line 301, in train
    self.policy_ratio2: policy_ratio2
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  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1356, in _do_call
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    run_metadata_ptr)
  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1173, in _run

```



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    feed_dict_tensor, options, run_metadata)
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1350, in _do_run
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KeyboardInterrupt
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    run_metadata_ptr)
  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1145, in _run
    not subfeed_t.get_shape().is_compatible_with(np_val.shape)):
  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/framework/tensor_shape.py", line 1081, in is_compatible_with
    other = as_shape(other)
  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/framework/tensor_shape.py", line 1204, in as_shape
    return TensorShape(shape)
  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/framework/tensor_shape.py", line 774, in __init__
    self._dims = [as_dimension(d) for d in dims_iter]
  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/framework/tensor_shape.py", line 774, in <listcomp>
    self._dims = [as_dimension(d) for d in dims_iter]
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    options, feed_dict, fetch_list, target_list, run_metadata)
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    epsilon = epsilon, spatial = spatial, mean_field = mean_field)
  File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_sessionrun

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File "/home/ubuntu/weight.py", line 301, in train
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Process Process-844:
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KeyboardInterrupt

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```

KeyboardInterrupt

```
File "/home/ubuntu/.local/lib/python3.7/site-packages/tensorflow/python/client/session.py", line 1429, in _call_tf_se
```

```

ssionrun
    run_metadata)
KeyboardInterrupt
KeyboardInterrupt
ubuntu@ip-172-31-70-107:~$ export openblas_num_threads=1; export OMP_NUM_THREADS=1; python EC2.py
19:44, 04/01; num of cores:36

Basic setting:[T, sd_0, sd_D, sd_R, sd_u_0, w_0, w_A, [M_in_R, mean_reversion, pois0, simple, u_0_u_D]] = [None, 10, 10
, 10, 0.3, 0.5, 1, [True, False, True, False, 10]]

-----
[pattern_seed, day] = [2, 14]

max(u_0) = 197.9
0_threshold = 70
means of Order:

87.8 97.8 52.4 162.7 58.1
77.3 115.7 68.5 72.4 75.7
117.4 197.9 100.7 71.1 116.9
83.2 98.9 141.5 79.5 99.8
76.4 94.9 107.4 73.9 89.9

target policy:

1 1 0 1 0
1 1 0 1 1
1 1 1 1 1
1 1 1 1 1
1 1 1 1 1

number of reward locations: 22
0_threshold = 80
target policy:

1 1 0 1 0
0 1 0 0 0
1 1 1 0 1
1 1 1 0 1
0 1 1 0 1

number of reward locations: 15
0_threshold = 90
target policy:

0 1 0 1 0
0 1 0 0 0
1 1 1 0 1
0 1 1 0 1
0 1 1 0 0

number of reward locations: 12
0_threshold = 100
target policy:

0 0 0 1 0
0 1 0 0 0
1 1 1 0 1

```

0 0 1 0 0

0 0 1 0 0

number of reward locations: 8

0\_threshold = 110

target policy:

0 0 0 1 0

0 1 0 0 0

1 1 0 0 1

0 0 1 0 0

0 0 0 0 0

number of reward locations: 6

Rep 1 DONE; Rep 2 DONE; Rep 3 DONE; Rep 4 DONE; Rep 5 DONE; Rep 6 DONE; Rep 7 DONE; Rep 8 DONE;

Value of Behaviour policy:60.81

0\_threshold = 70

MC for this TARGET:[69.312, 0.091]

[DR/QV/IS]; [DR\_NO\_MARL, DR\_NO\_MF, V\_behav]

bias:[[3.65, 3.5, 1.44]][[5.34, -69.31, -8.5]]

std:[[0.41, 0.4, 0.21]][[0.14, 0.0, 0.12]]

MSE:[[3.67, 3.52, 1.46]][[5.34, 69.31, 8.5]]

MSE(-DR):[[0.0, -0.15, -2.21]][[1.67, 65.64, 4.83]]

\*\*\*

=====

0\_threshold = 80

MC for this TARGET:[70.894, 0.091]

[DR/QV/IS]; [DR\_NO\_MARL, DR\_NO\_MF, V\_behav]

bias:[[0.88, 0.7, -0.89]][[1.41, -70.89, -10.08]]

std:[[0.29, 0.29, 0.11]][[0.24, 0.0, 0.12]]

MSE:[[0.93, 0.76, 0.9]][[1.43, 70.89, 10.08]]

MSE(-DR):[[0.0, -0.17, -0.03]][[0.5, 69.96, 9.15]]

\*\*\*

=====

0\_threshold = 90

MC for this TARGET:[69.377, 0.097]

[DR/QV/IS]; [DR\_NO\_MARL, DR\_NO\_MF, V\_behav]

bias:[[0.29, 0.13, -0.77]][[-0.39, -69.38, -8.57]]

std:[[0.26, 0.24, 0.16]][[0.22, 0.0, 0.12]]

MSE:[[0.39, 0.27, 0.79]][[0.45, 69.38, 8.57]]

MSE(-DR):[[0.0, -0.12, 0.4]][[0.06, 68.99, 8.18]]

\*\*\*

=====

0\_threshold = 100

MC for this TARGET:[68.925, 0.09]

[DR/QV/IS]; [DR\_NO\_MARL, DR\_NO\_MF, V\_behav]

bias:[[-2.72, -2.84, -3.05]][[-4.6, -68.92, -8.11]]

std:[[0.31, 0.33, 0.25]][[0.1, 0.0, 0.12]]

MSE:[[2.74, 2.86, 3.06]][[4.6, 68.92, 8.11]]

MSE(-DR):[[0.0, 0.12, 0.32]][[1.86, 66.18, 5.37]]

\*\*\*

=====

0\_threshold = 110

MC for this TARGET:[70.467, 0.083]

[DR/QV/IS]; [DR\_NO\_MARL, DR\_NO\_MF, V\_behav]

bias:[[-6.37, -6.45, -6.43]][[-8.64, -70.47, -9.66]]

std:[[0.47, 0.48, 0.26]][[0.11, 0.0, 0.12]]

MSE:[[6.39, 6.47, 6.44]][[8.64, 70.47, 9.66]]

MSE(-DR):[[0.0, 0.08, 0.05]][[2.25, 64.08, 3.27]]

\*\*\*

=====

[[ 3.67 3.52 1.46 5.34 69.31 8.5 ]