

TRAINING AI TO PLAY* MARIO KART

* ADDITIONAL TRAINING WILL BE REQUIRED; A PERFORMANT NETWORK IS NOT INCLUDED



ToDo's:

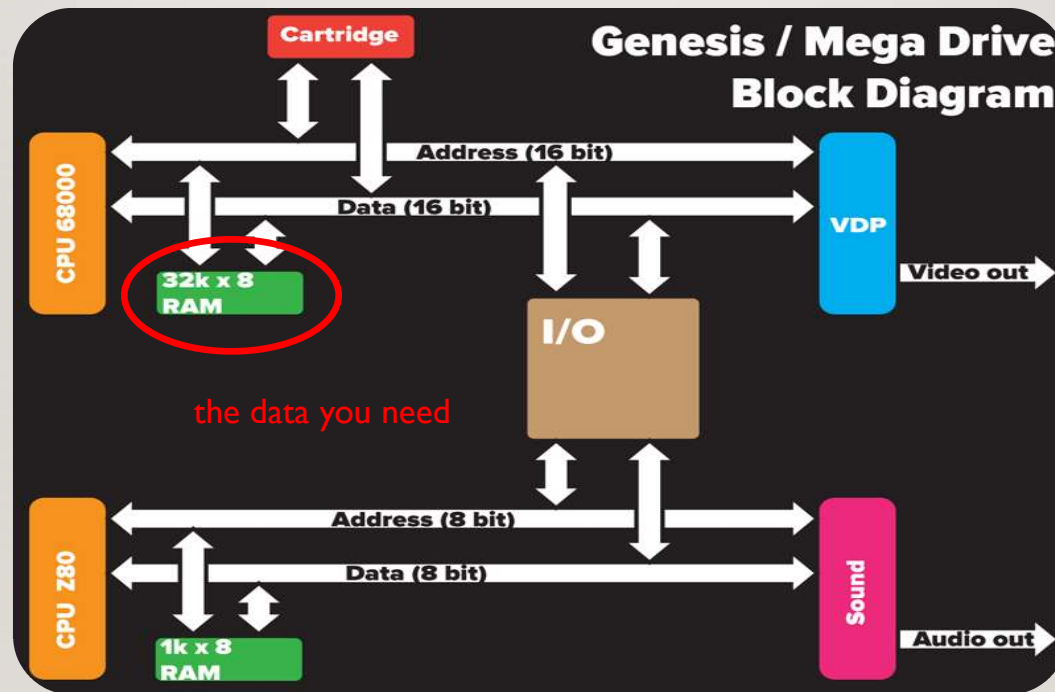
1. Integrate Mario Kart with OpenAI Gym
2. Make a script to record gameplay
3. Reduce state (frame) dimensions
4. Train a DQN to play the game
5. Train a network to copy behavior



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WHY MARIO KART?



simple environment

looks like
autonomous driving

easy to access data

can beat my friends
at mario kart

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<?xml version="1.0"?>
<Error>
  <Code>NoSuchBucket</Code>
  <Message>The specified bucket does not exist.</Message>
</Error>
```

Data directory missing

Could not find data directory. Integration and movie loading will not work properly.

OK

Integration UI google storage isn't working? #227

nathanrhart opened this issue 6 days ago · 3 comments

Variables

Name	Value	Address	Type	Make variable
<div>< ></div>				
New variable name				
0			Type (e.g., =u4)	

Scenario information

Reward	Cumulative	End	Next step	Reset scenario
0	0	No	0	

Found

Search name

Is 0 Make variable

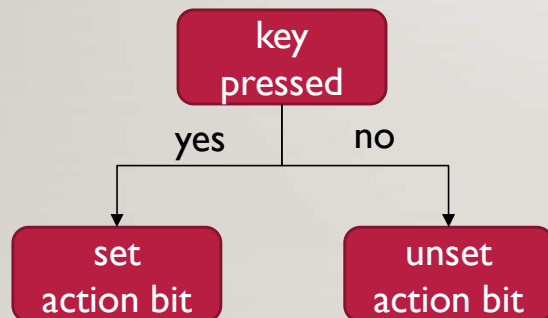
I have extracted all needed data and stored it here:

<https://github.com/2BytesGoat/rl-retro-gym>

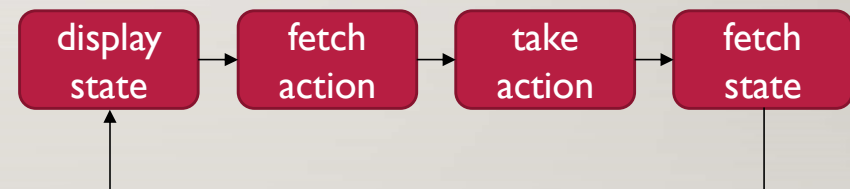


RECORDING TOOL

Thread 1



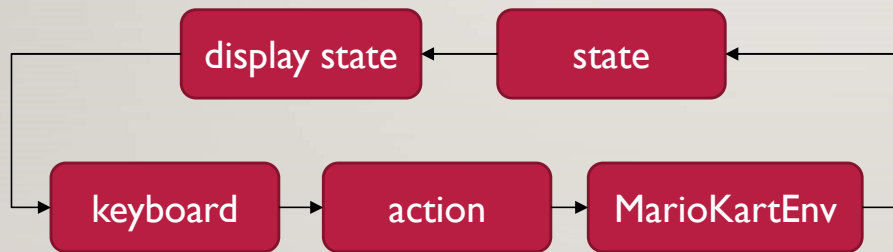
Thread 2



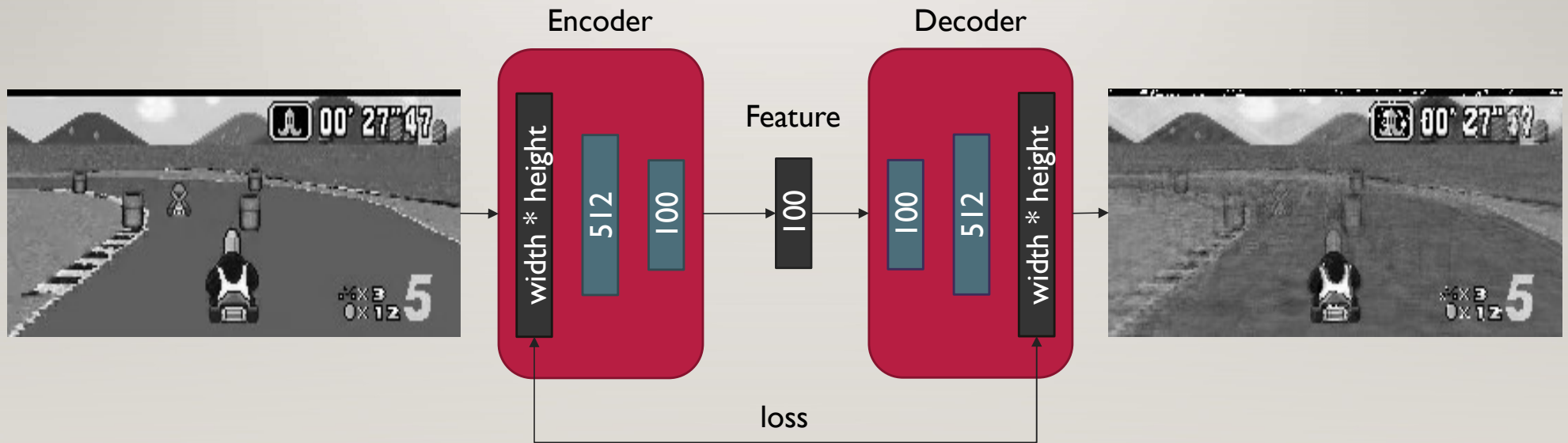
Action

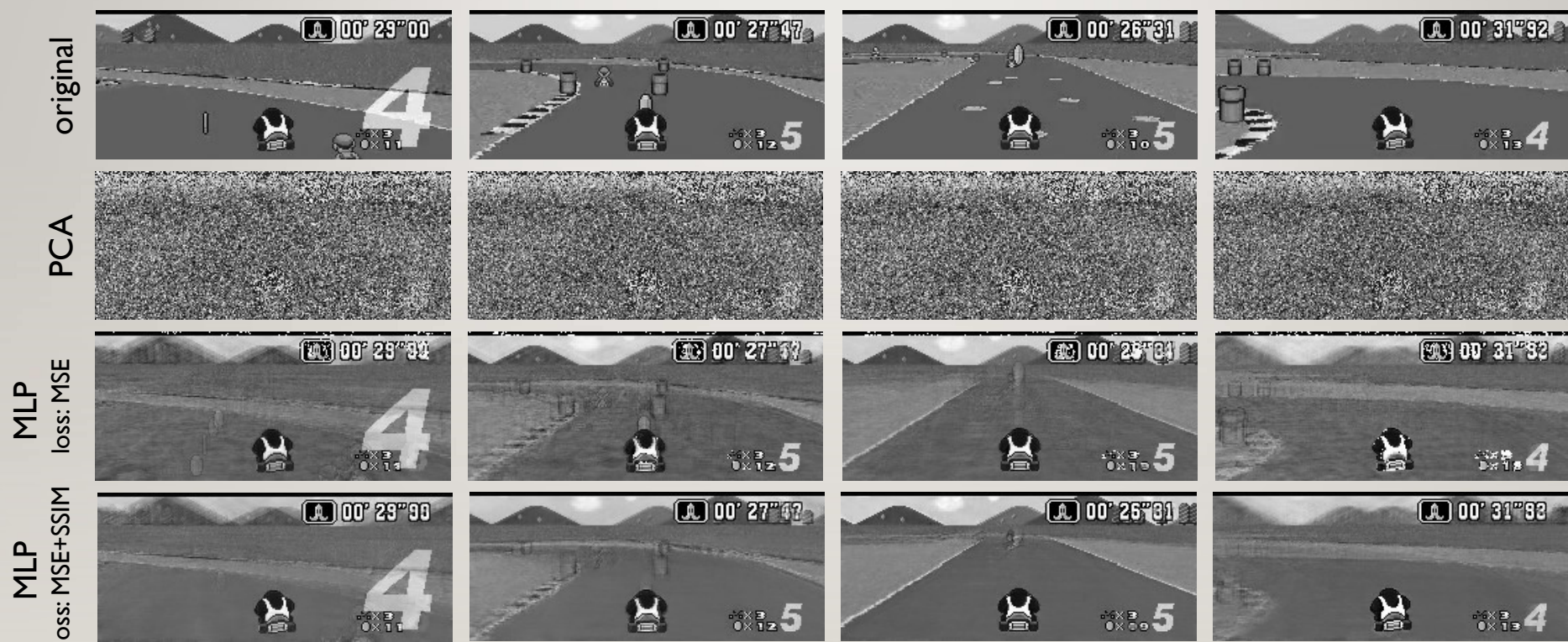
[0 0 0 0 0 1 0 0 1 0 0 0]

	cart_lap_nb	cart_has_item	cart_place	map_time	cart_last_item	cart_is_coliding	cart_coins	cart_position_x	cart_status	map_surface	cart_speed	action
0	127	0	14	0	0	0	5	27	0	64	0	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
1	127	0	14	0	0	0	5	27	0	64	0	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
2	127	0	14	0	0	0	5	27	0	64	0	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
3	127	0	14	0	0	0	5	27	0	64	0	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
4	127	0	14	0	0	0	5	27	0	64	0	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]
5	127	0	14	0	0	0	5	27	0	64	0	[0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0]



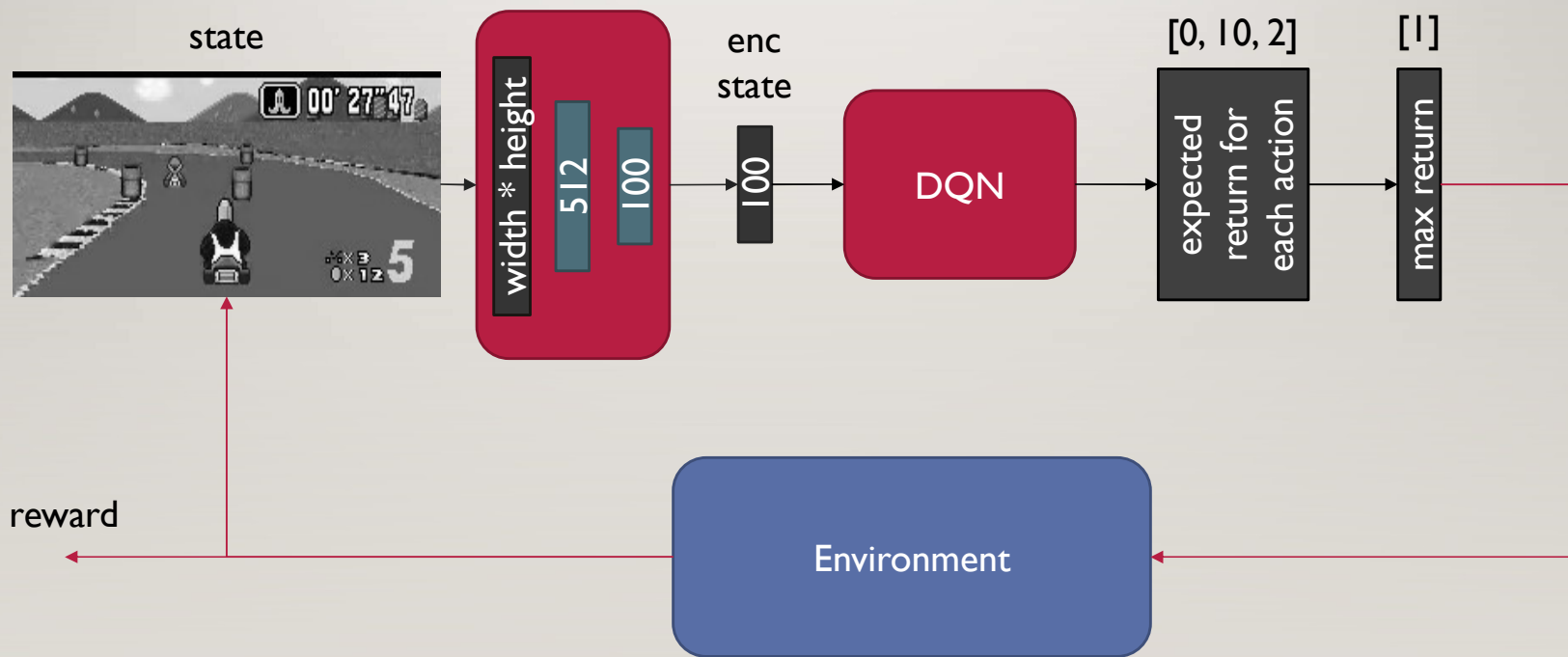
HOW THE ENCODER WORKS



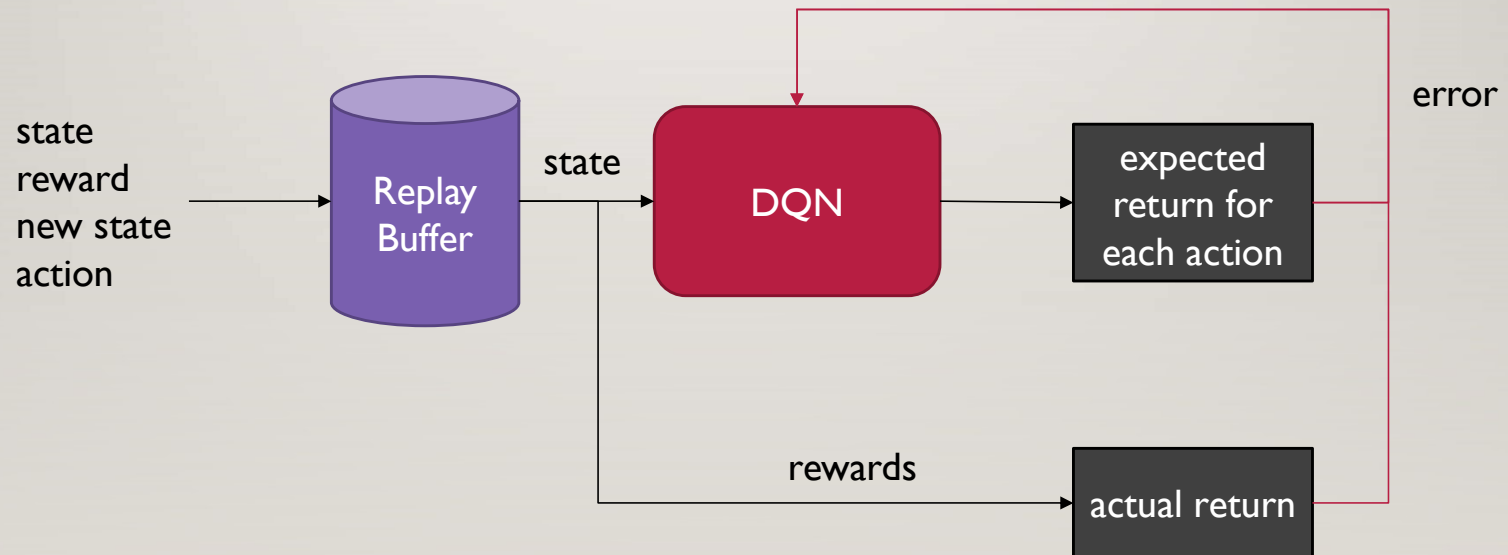


* decoding done from a 100 value feature vector

TRAINING DQN - FORWARD PASS



TRAINING DQN - LEARNING



NEXT STEPS

- Update DQN so multiple actions can be taken in the same time