2048 GAME

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2048

- Single-player sliding tile puzzle video game.
- A grid to combine them to create a tile with the number 2048.
- The goal is to reach the tile with the value "2048".

DQN

A DQN, or Deep Q-Network, approximates a state-value function in a Q-Learning framework with a neural network.
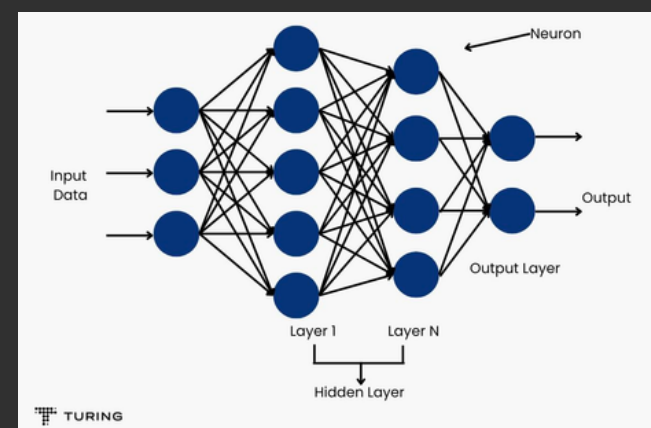
Enviornment

A 4x4 matrix, where each cell contained the value of the corresponding cell.
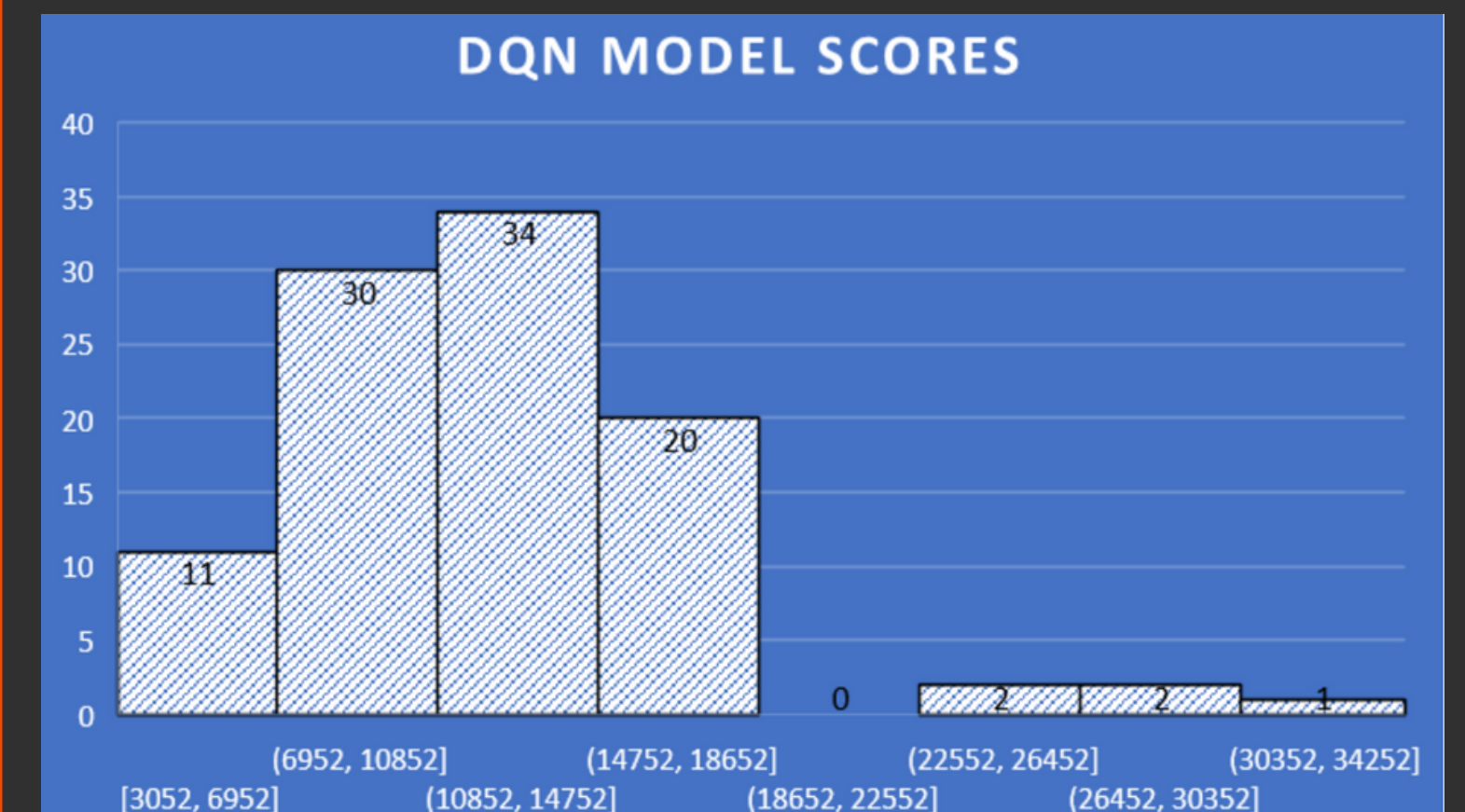

Policy

Multilayer Perceptron

Performance Metrics

- Average Scores
- Average Moves
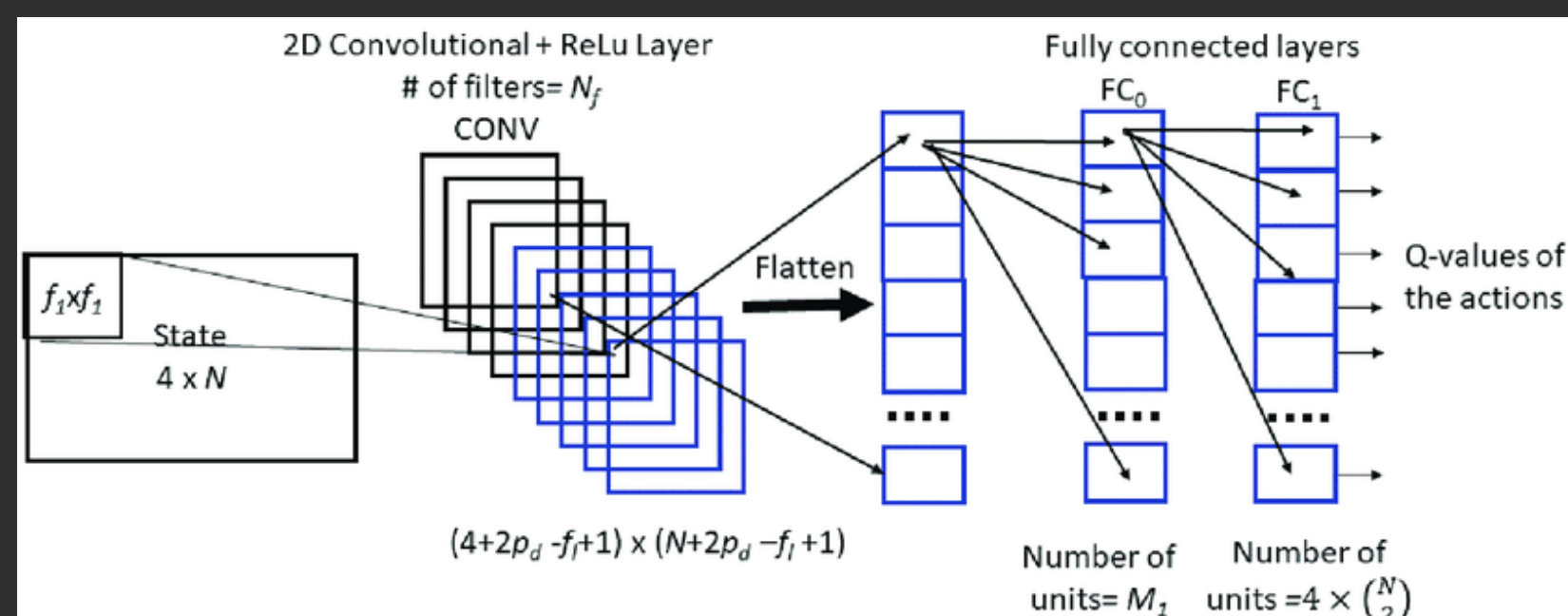- Maximum Tiles Reached

Results


```
print('Average Moves: {}'.format(moves_average))
print('Average Scores: {}'.format(rewards_average))
print('maxmimum Score :{}'.format(max_score))
✓ 0.0s

Average Moves: 711.040404040404
Average Scores: 11882.545454545454
maxmimum Score :31828
```

Architecture

Resources

- https://en.wikipedia.org/wiki/2048_(video_game)

- https://arxiv.org/abs/1312.5602v1

- https://towardsdatascience.com/a-puzzle-for-ai-eb7a3cb8e599

- https://www.turing.com/kb/explanation-of-deep-neural-network-multilayer-perceptron-deep-q-network