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# Successor Features in Deep Reinforcement Learning and Transfer Learning

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**Abstract**

How can we apply successor features in Deep reinforcement learning? According to [3], [1] and to [2]

# 1 Successor Features

## 1.1 Definitions

## 1.2 Examples

# 2 Deep Reinforcement Learning and Transfer Learning

## 2.1 DP

## 2.2 TL

# 3 Application to Grid World

## 3.1 Results

# References


[1] A. Barreto, W. Dabney, R. Munos, J. J. Hunt, T. Schaul, D. Silver, and H. P. van Hasselt. Successor features for transfer in reinforcement learning. In *Advances in Neural Information Processing Systems*, pages 4056–4066, 2017.

[2] T. D. Kulkarni, A. Saeedi, S. Gautam, and S. J. Gershman. Deep successor reinforcement learning. *arXiv preprint arXiv:1606.02396*, 2016.

[3] L. Lehnert, S. Tellex, and M. L. Littman. Advantages and limitations of using successor features for transfer in reinforcement learning. *arXiv preprint arXiv:1708.00102*, 2017.