

## عنوان مقاله:

Deep Reinforcement Learning for Grid world with changing obstacles and investigating the effect of learning rate on received rewards

## محل انتشار:

پنجمین کنفرانس بین المللی مهندسی برق و کامپیوتر با تاکید بر دانش بومی (سال: 1396)

تعداد صفحات اصل مقاله: 7

## نویسندگان:

Mohammad Hasan Olyaei Torqabeh - *Faculty of Electrical Engineering, Sadjad University of Technology, Mashhad, Iran*

Hasan Jalali - *Faculty of Electrical Engineering, Sadjad University of Technology, Mashhad, Iran*

Ali Olyaei Torqabeh - *Department of Computer Engineering, Faculty of Engineering, Ferdowsi University of Mashhad, Mashhad, Iran*

Amin Noori - *Faculty of Electrical Engineering, Sadjad University of Technology, Mashhad, Iran*

## خلاصه مقاله:

This paper discusses solving the Grid World with Changing Obstacles (GWCO) problem with the Deep Reinforcement Learning (Deep RL) method. In the GWCO problem, obstacles move on specific paths. Moving these obstacles turns this problem into a dynamic problem. Due to the changing environment of the problem and the high number of state-action, the Deep RL method is used to solve the GWCO problem. In this paper, we refer to the methods of Reinforcement Learning, Deep Learning, and Deep RL, and some of their applications. In the final section, by comparing the three types of learning rate ( $\alpha$ ), the simulation results are compared and it can be concluded that for the GWCO problem, the learning rate is better set to 0.001. Simulation of this paper is done with the powerful Python software and Tensorflow

## کلمات کلیدی:

Grid World, Deep Reinforcement Learning, Deep Learning, RL, Python, Tensorflow

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/724984>

