

# DDPG - Final Project Report

## Technical Instructions and Experimental Results

Maximilian Gehrke · Tabea Wilke ·  
Yannik Frisch

Received: date / Accepted: date

### 1 Deep Deterministic Policy Gradient - DDPG

In this part of the project we implemented the DDPG algorithm [see x]. The next section describes the platforms we trained and evaluated it on. The next section after that describes the extensions we implemented and the results we got.

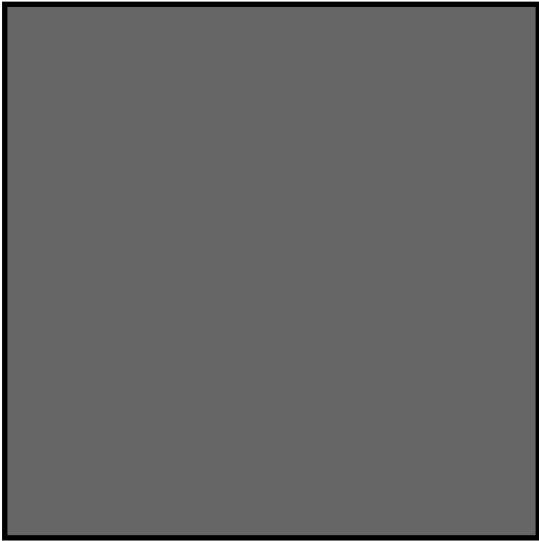
### 2 Experimental Setups

We trained and evaluated DDPG on the simulated Open AI Gym environment Pendulum-v0. Then we did the same on the Quanser simulated environments Qube-v0 (Furuta Pendulum), and the BallBalancerSim-v0. We used low-dimensional features (torques etc.) for all environments. No pixel data was used.

---

F. Author  
first address  
Tel.: +123-45-678910  
Fax: +123-45-678910  
E-mail: fauthor@example.com

S. Author  
second address



**Fig. 1** Please write your figure caption here

2.1 Pendulum-v0

2.2 Qube-v0

2.3 BallBalancerSim-v0

### 3 Experimental Results

[Put all plots in here and describe extensions to the algorithm.]

3.1 Pendulum-v0

Learning on Pendulum-v0 does not require a very complex neural network structure. One hidden layer with max. 100 neurons is sufficient.

3.2 Qube-v0

Low discount factor  $\gamma$  seems to be crucial for learning to controll the Qube-v0.

3.3 BallBalancerSim-v0

### 4 Technical Instructions to Run the Algorithm

Install Python :P



**Fig. 2** Please write your figure caption here

**Table 1** Please write your table caption here

first	second	third
number	number	number
number	number	number

## References

- Abstract**
1. Author, Article title, Journal, Volume, page numbers (year)
  2. Author, Book title, page numbers. Publisher, place (year)