Study Circle in Deep Reinforcement Learning
Lecture 0

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Study Circle

- ▶ We will follow online courses and assignments
- ▶ The topics might change over time
- ▶ Happy for input or suggestions for the course
- ▶ Current course ends Mid-April. Might speed up at the end
- ▶ Active participation in course for credits

Lectures

- ▶ Course based on lectures from Berkley RL course CS285
- ▶ It consists of both RL and Deep RL topics
- ▶ We will mainly discuss Deep RL topics
- ▶ Augmented with additional lecture slides or new papers

Assignments

- ▶ From the same course
- ▶ Additional github exercises from a free online course

Course Pre-requisites

- ▶ Recommended study circle on RL or equivalent
- ▶ Some basic knowledge about neural nets and training using tensorflow

Meetings

- ▶ We meet once per week making it one lecture
- ▶ 9 meetings in total (Excluding this)
- ▶ Watch the appropriate lecture before meeting, plus the assignments when mentioned

Topics in the Lecture

- ▶ Deep Reinforcement Learning with Q functions
- ▶ Advanced Policy Gradients
- ▶ Model Based planning
- ▶ Model Based RL
- ▶ Model Based Policy Learning
- ▶ Control as Inference
- ▶ Inverse Reinforcement Learning
- ▶ Distributed RL
- ▶ Challenges and Open problems

Main course links

- ▶ Berkeley Course - http://rail.eecs.berkeley.edu/deeprlcourse/
- ▶ Links to Video lectures - Link

Other course links

- ▶ CMU course - https://www.andrew.cmu.edu/course/10-703/
- ▶ David Silver - https://www.davidsilver.uk/teaching/

Supplementary books

- ▶ Sutton and Barto - http://incompleteideas.net/book/the-book.html
- ▶ Csaba Szepesvari - Algorithms for Reinforcement Learning
- ▶ Aurélien Géron - Hands-On Machine Learning with Scikit-Learn and TensorFlow

For the next meeting

- ▶ Meeting 1: Deep Reinforcement Learning with Q functions
- ▶ Watch the lecture video
- ▶ Study Assignment on basic Q learning