

Discussion Session w. 42

- ▶ Topics for discussion session w. 42:

Markov Decision processes and Reinforcement Learning

Literature:

- ▶ Kober, J., & Peters, J., "Imitation and Reinforcement Learning", *IEEE Robotics & Automation Magazine*, Vol. 17, No. 2, pp. 55–62, 2010.
- ▶ Peters, J., & Schaal, S. "Reinforcement learning of motor skills with policy gradients". *Neural Networks*, Vol. 21, No. 4, pp. 682–697, 2008.

See also the article

- ▶ Deisenroth, M. P., Fox, D., & Rasmussen, C. E.: "Gaussian Processes for Data-Efficient Learning in Robotics and Control", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 36, No.5, 2014.

from the previous meeting on Gaussian processes.

Discussion Session w. 42 (cont'd)

Lectures on Markov Decision processes and Reinforcement Learning available online:

- ▶ Lectures 16–20 in the course on Machine Learning from Stanford University:
<http://see.stanford.edu/see/lecturelist.aspx?coll=348ca38a-3a6d-4052-937d-cb017338d7b1>
- ▶ Lectures 8–11 in the course on Artificial Intelligence from UC Berkeley: http://www.cs.berkeley.edu/~russell/classes/cs188/f14/lecture_videos.html

Simulation task:

- ▶ Implement an algorithm for reinforcement learning and test it in simulations on a process of your choice.