

"Introduction to Reinforcement Learning" (June 11th 2015)

Lecturer:

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Textbook:

R. Sutton and A. Barto: Reinforcement Learning: An Introduction. MIT Press, 1998.

HTML-Version of the textbook for free: <http://webdocs.cs.ualberta.ca/~sutton/book/the-book.html>

Slides for the textbook: <http://webdocs.cs.ualberta.ca/~sutton/book/Slides/>

Open-Source RL-Toolbox: <http://sourceforge.net/projects/teachingbox/>

RL-Mailinglist: <https://groups.google.com/forum/#!forum/rl-list>

Videos:

The Neuroscience of Reinforcement Learning: http://videlectures.net/icml09_niv_tnorl/

Thorndike - The Law of Effect: <http://www.youtube.com/watch?v=Vk6H7Ukp6To>

Towards Learning Robot Table Tennis: <https://www.youtube.com/watch?v=SH3bADiB7uQ>

Pigeon Solves Box-and-Banana-Problem: <http://www.youtube.com/watch?v=mDntbGRPeEU>

Randomized Ensemble Reinforcement Learning in Mario AI:
<http://tokic.com/www/tokicm/mario.php.html>

Recommended literature:

N. J. van Eck and M. van Wezel. 2008. Application of reinforcement learning to the game of Othello. *Comput. Oper. Res.* 35, 6. 1999-2017.

T. Kietzmann and M. Riedmiller. The Neuro Slot Car Racer: Reinforcement Learning in a Real World Setting. *Proceedings of the Int. Conference on Machine Learning Applications (ICMLA09)*. Springer, Miami, Florida, Dec 2009.

V. Mnih, K. Kavukcuoglu, D. Silver, A. A. Rusu, J. Veness, M. G. Bellemare, A. Graves, M. Riedmiller, A. K. Fidjeland, G. Ostrovski, S. Petersen, C. Beattie, A. Sadik, I. Antonoglou, H. King, D. Kumaran, D. Wierstra, S. Legg, D. Hassabis. Human-level control through deep reinforcement learning. *Nature*, vol. 518, p 1529, 26 Feb. 2015.
<http://www.nature.com/nature/journal/v518/n7540/full/nature14236.html>

M. Tokic. Reinforcement Learning: Psychologische und neurobiologische Aspekte. *Künstliche Intelligenz*, 27(3):213-219, 2013.