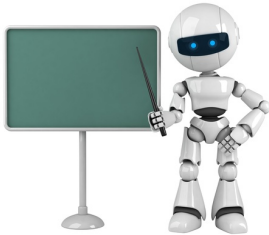




Prof. R. Wattenhofer

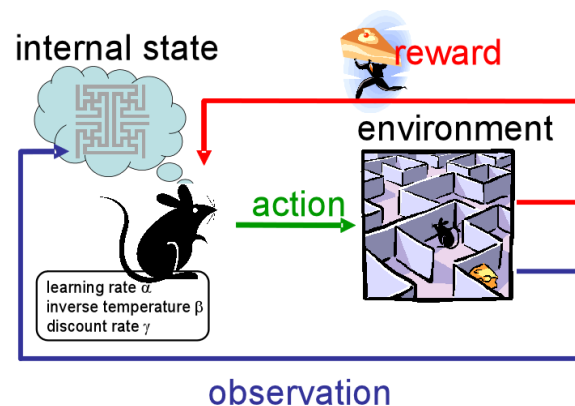
Automated Exercise Coach for Better Learning



With the increasing demand to teach more in less time, the pressure on schools, teachers and coaches of all kinds has dramatically increased recently. Especially high quality education can often only be achieved by personal trainers who take into consideration the strengths, weaknesses and learning types of their trainees. However, since personal trainers can only handle a certain amount of trainees, their prices are high and most people have to choose the not ideal one-size-fits-all school education.

In this thesis we try to develop a prototype for automated, personalized exercise proposal. Based on recent advancements in Deep Learning and Reinforcement Learning, we aim to improve education through an intelligent and adaptive algorithm.

Requirements: Knowledge in Deep Learning, or solid background in Machine Learning with implementation experience. You should be able to read and understand the first 12 chapters of the "Deep Learning Book" by Goodfellow et al. (available for free online from MIT press). If you are interested in the topic but new to deep learning we expect you to complete an introductory deep learning course before applying for the thesis, such as Andrew Ng's coursera course (use the free trial!)¹ or this Udacity course².



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¹<https://www.coursera.org/specializations/deep-learning>

²<https://classroom.udacity.com/courses/ud730>