Notes on Reinforcement Learning and Deep Reinforcement Learning

compiled by D.Gueorguiev, 3/20/25

# Introductory Notes

What is Reinforcement Learning: branch of machine learning concerned with making decisions and taking sequences of actions based on some current state thereby maximizing some reward objective over time.

action

Environment

Agent

state, reward

# References

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[3] [Deep Reinforcement Learning: Lecture 3: More on Episodic Reinforcement Learning and Policy Gradients, John Schulman, OpenAI, Berkeley (MLSS Cadiz, 2016)](https://youtu.be/rO7Dx8pSJQw?si=h5v2bh-Se-CDV93I)

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[5] [Reinforcement Learning Course: Lecture 1: Intro to Reinforcement Learning, David Silver, DeepMind x UCL, 2015](https://youtu.be/2pWv7GOvuf0?si=4EW5Iv50whZLmrqE)

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[8] [Reinforcement Learning Course: Lecture 4: Model-Free Prediction, David Silver, DeepMind x UCL, 2015](https://youtu.be/PnHCvfgC_ZA?si=pMy18AnRs8K0M6vX)

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[11] [Reinforcement Learning Course: Lecture 7: Policy Gradient Methods, David Silver, DeepMind x UCL, 2015](https://youtu.be/KHZVXao4qXs?si=9YTXC1M--8bAdZpH)

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[13] [Reinforcement Learning Course: Lecture 9: Exploration and Exploitation, David Silver, DeepMind x UCL, 2015](https://youtu.be/sGuiWX07sKw?si=FMhQ1UKGpDOaTJLw)

[14] [Reinforcement Learning Course: Lecture 10: Classic Games, David Silver, DeepMind x UCL, 2015](https://youtu.be/kZ_AUmFcZtk?si=cVKj56KPGNrPabX6)

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