**Team 3: Reinforced Learning++**

**Tutorials**:

<https://www.youtube.com/watch?v=LzaWrmKL1Z4>

<https://www.learndatasci.com/tutorials/reinforcement-q-learning-scratch-python-openai-gym/>

<https://vortexstudio.atlassian.net/wiki/spaces/VSD20B/pages/1213498253/Tutorials>

<https://samuelarzt.com/portfolio/ai-learns-parking/>

<https://www.reddit.com/r/deeplearning/comments/d003b3/ai_learns_to_park_deep_reinforcement_learning/>

<https://unity.com/products/machine-learning-agents>

<https://smartlabai.medium.com/controlling-self-driving-robots-with-deep-reinforcement-learning-3b60bb0a9ea7>

<https://gym.openai.com/envs/#robotics>

<https://docs.google.com/document/d/10sXEhzFRSnvFcl3XxNGhnD4N2SedqwdAvK3dsihxVUA/edit#heading=h.wz5to0x8kqmr>

<https://towardsdatascience.com/reinforcement-learning-with-openai-d445c2c687d2>

<https://towardsdatascience.com/do-you-want-to-train-a-simplified-self-driving-car-with-reinforcement-learning-be1263622e9e>

<https://www.tensorflow.org/agents/tutorials/0_intro_rl>

* Tensorflow tutorial on RL

<https://medium.com/xrpractices/autonomous-car-parking-using-ml-agents-d780a366fe46>

<https://towardsdatascience.com/reinforcement-learning-with-python-part-1-creating-the-environment-dad6e0237d2d>

<https://www.youtube.com/watch?v=tpCFfeUEGs8>

**Papers**:

<http://karpathy.github.io/2016/05/31/rl/>

* Comprehensible guide on how RL works

<https://www.reddit.com/r/reinforcementlearning/comments/8w7mn2/comparison_selection_of_rl_algorithms_in/>

<https://openreview.net/pdf?id=BylpU61C97>

<https://arxiv.org/pdf/2002.00444.pdf>

<https://cs.uwaterloo.ca/~ppoupart/teaching/cs885-spring20/slides/cs885-end-to-end-automated-parking.pdf>

<https://www.researchgate.net/publication/331202855_Backing_Up_Control_of_a_Self-Driving_Truck-Trailer_Vehicle_with_Deep_Reinforcement_Learning_and_Fuzzy_Logic>

<https://ieeexplore.ieee.org/document/9158298>

also (<https://sci-hub.mksa.top/10.1109/ECTI-CON49241.2020.9158298>) ← good rewards for parking

**Relevant code:**

<https://github.com/masoudhassani/inverted_pendulum>

<https://vortexstudio.atlassian.net/wiki/spaces/VSD20B/pages/1213503180/Reinforcement%2BLearning%2BEnvironment%2BTutorial%2BPython%2B3>

<https://medium.com/xrpractices/autonomous-car-parking-using-ml-agents-d780a366fe46>

<https://colab.research.google.com/drive/18zoQr_-mHFPILM6B0tfHhPON2kZLKuoH>

<https://github.com/openai/gym/blob/master/docs/environments.md#third-party-environments>

<https://atcold.github.io/pytorch-Deep-Learning/en/week10/10-3/>

Things to do during next meeting

* Implement a version of ddpg (sth else?)

Things to do in general

| List of things to do | done? |
| --- | --- |
| Initial list of rewards | Mostly done? |
| Finalize list of rewards |  |
| Implement a version of DDPG?????? (or whatever our choice of algorithm is) |  |
| Integrate with truck |  |
| train |  |
| Evaluate - test performance |  |