Basic to advance RL application

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Basic Application

Environment:

2D

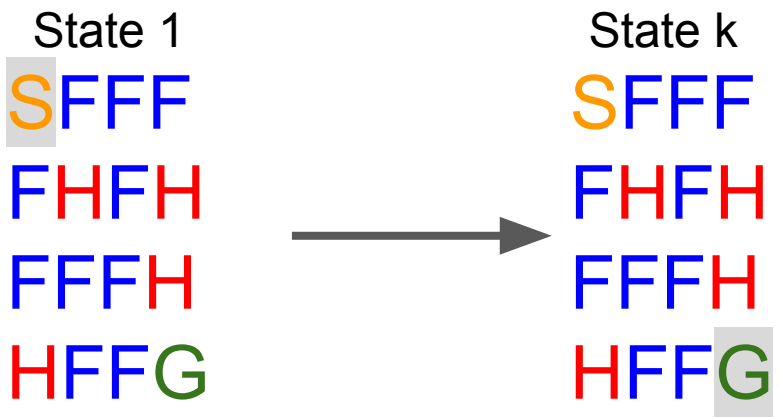
Finite

Fully Observable

(S: starting point, safe)
(F: frozen surface, safe)
(H: hole, fall to your doom)
(G: goal, where the frisbee is located)
(: agent)

Agent:

Tabular Q-Learning



Pathway Moving Forward

1. Partially visible environment

2. Different method application
    a. Policy Gradient
    b. Q-Learning [1] (Autonomous UAV Navigation Using Reinforcement Learning, 2020) (Determine pros and con)
    c. Deep Q-Network [2] (A Review of Deep Learning Methods and Applications for Unmanned Aerial Vehicles, 2017)

Pathway Moving Forward

3. Generating 2D Continuous Environment
    a. Research reward shaping

4. Data Implementation
    a. Implement audio input

Citations

[1] Arxiv.org. 2020. *Autonomous UAV Navigation Using Reinforcement Learning*. [online] Available at: <https://arxiv.org/pdf/1801.05086.pdf> [Accessed 22 June 2020].

[2] A. Carrio, C. Sampedro, A. Rodriguez-Ramos, and P. Campoy, “A Review of Deep Learning Methods and Applications for Unmanned Aerial Vehicles,” *Journal Sensors*, 14-Aug-2017. [Online]. Available: https://www.hindawi.com/journals/js/2017/3296874/. [Accessed: 22-Jun-2020].