**Final Project**

This file was created to gather strategies, questions and information sources for the Iron Dome reinforcement learning project.

RL general resources:

* Berkeley RL course - <http://rail.eecs.berkeley.edu/deeprlcourse/>
* Medium article - <https://towardsdatascience.com/machine-learning-part-4-reinforcement-learning-43070cbd83ab>

Proposed solutions:

* Baseline - Random
* DQN :
  + Cart pole tutorial - <https://keon.github.io/deep-q-learning/>
  + Paper: Atarry with DQN article - <https://arxiv.org/pdf/1312.5602.pdf>
  + Medium article -
* DDQN:
  + Paper: Deep Reinforcement Learning with Double Q-learning -
  + Medium tutorial - <https://towardsdatascience.com/double-deep-q-networks-905dd8325412>
* Policy Gradients (PG):
  + Medium article - <https://medium.com/@jonathan_hui/rl-policy-gradients-explained-9b13b688b146>
  + Berkeley RL course PG lecture - <http://rail.eecs.berkeley.edu/deeprlcourse/static/slides/lec-5.pdf>

Interesting questions (after achieving nice performances on original challenge):

* Changing loss of interceptor
* Changing loss of missile hitting a city
* Adding “strategic sites” with higher loss
* Adding a “Hamas” agent
* Changing game physics
* Adding a simple missile guidanceS
* Multiple “Hamas” launching sites
* Multiple Iron Dome launching sites
* Allowing Iron Dome to choose its launchers location based on Hamas
* Equipping “Hamas” with: low/ high cost/accuracy/range weapon