**Bibliografia e sitografia tesi**

* Frequency Adjusted Multi-Agent Q-learning, Michael Kaisers and Karl Tuyls;
* An Evolutionary Dynamical Analysis of Multi-Agent Learning in Iterated Games, K. Tuyls, P. J. ’t Hoen and B. Vanschoenwinkel
* Pybricksdev documentation, <https://code.pybricks.com/static/docs/v2.7.0/index.html>
* Bleak Documentation, <https://bleak.readthedocs.io/en/latest/>
* https://www.cmu.edu/dietrich/sds/ddmlab/papers/2021McDonaldetalAAAISymposium.pdf

**Possibile indice e argomenti trattati**

* Introduzione
* Multi Agent Learning
* MAL vs SAL
* Spike Prime
* A cosa serve spike prime e come funziona
* Problematiche di comunicazione e coding
* Soluzione: Pybricksdev (panoramica)
* Modellazione algoritmi di controllo
* Single agent learning
  + qLearning sul robot
  + simple qlearning
  + gridsearch
    - gridsearch free
    - gridsearch monitored
    - gridsearch with hub
  + qLearning peer to peer
  + analisi sulle modalità di apprendimento
* Multi agent learning
  + Centralized qlearning -> good
  + Decentralized qLearning -> not good
  + Decentralized faq-learning -> good
* Osservazioni successive
* Conclusioni