**Project Notes**

Literature

Hierarchical reinforcement learning for self‐driving decision‐making without reliance on labelled driving data

* Independent Manoeuvre Selection and Motion Control
* APRL – Asynchronous Parallel RL – Each learner has own policy network, average is taken at each iteration, learners synchronise form shared network before making new decisions

Hands-On Reinforcement Learning with Python

* Reinforcement Learning Basics – Policy Function, Value Function, Agent-Environment Interface, Q Function, MDP, Bellman Equation, Monte Carlo Methods
* Policy Optimisation
* Feature exploitation vs Feature exploration

Deep Learning, Reinforcement Learning and World Models

* Generalised Policy Updates
* World Models

Lightweight 3D hand pose estimation by cascading CNNs with reinforcement learning

* CNN and feature extraction
* Feature exploitation vs Feature exploration

## Installing Mario-env

Was using python 3.12, needed Descartes package -> Pillow -> zlib.

Zlib not recognised by pip, tried .exe install, that didn’t work.

Found .whl archived package at <https://www.lfd.uci.edu/~gohlke/pythonlibs/#pillow>

Only compiled versions were python version <=3.11

Uninstalled python 3.12 and installed 3.11,

Installed pillow package on 3.11

## Changes to Mario Env

Removed

`# print("loading track trajectories...")

# CENTER\_TRAJ = Trajectory(name="center", env=np.load(os.environ.get("CENTER\_TRAJ")), writeable=False)

# RIGHT\_TRAJ = Trajectory(name="right", env=np.load(os.environ.get("RIGHT\_TRAJ")), writeable=False)

# LEFT\_TRAJ = Trajectory(name="left", env=np.load(os.environ.get("LEFT\_TRAJ")), writeable=False)

# print("loaded track trajectories")

As I will be using a different approach so these trajectories are not as necessary

Removed all references to trajectories in state-handler

Removed Pangolin visualiser