# Diversity Based Hierarchy

My proposal is to use my own HRL model to learn three Atari games simultaneously: Bowling, Space-Invaders, and Pong

#### Motivation

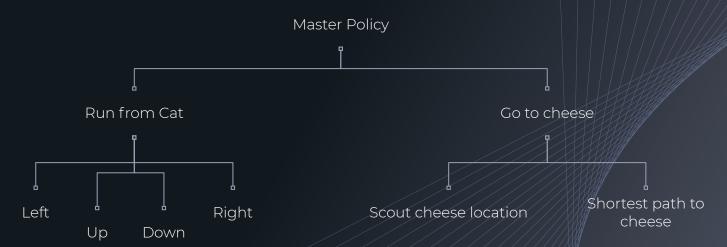
- Reinforcement Learning has high potential
- Currently faces limits on its practicality

## A Summary of Reinforcement Learning (RL)

- Agent interacting with environment
- Goal is to maximize reward received from the environment



#### Hierarchical Reinforcement Learning



# Diversity is all you need (DIAYN)

- Method for discovering sub-policies or skills
- Easily discriminable and high entropy skills
- Optimality issues

### Diversity Based Hierarchy

- Repeated application of DIYAN
- Capability / computing cost trade off

## **Environment Selection**

- Can't be too ambitious
- Environments with similar observation and action spaces





### Questions?