Assignment 3 – Meta and Transfer Learning

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[Project Github](https://github.com/elorberb/REINFORCE)

# Section 1 – Training individual networks

In this section we present how we trained our actor-critic model on Acrobot and MountainCarContinuous. We use the same model from assignment 2. We detail the training parameters and process.

### Acrobot Agent – Implementation and Training

1. I / O
2. Hyperparameters
3. Loss
4. Average Reward

### MountainCarContinuous Agent – Implementation and Training

1. I / O
2. Hyperparameters
3. Loss
4. Average Reward

### Cartpole Agent – Implementation and Training

1. I / O
2. Hyperparameters
3. Loss
4. Average Reward

**Key Points**

# Section 2 – Fine-tune an existing model

In this section we will fine-tune a model trained on one problem and attempt to apply it to another.

**Fine-tune Pipeline:**

1. Initialize pretrained model
2. Reinitialize weights of output layer
3. Train on target

### Acrobot → Cartpole

1. Hyperparameters
2. Loss
3. Average Reward vs average reward untrained
4. Time

### Cartpole → MountainCarContinuous

1. Hyperparameters
2. Loss
3. Average Reward vs average reward untrained
4. Time

**Key Points**

# Section 3 – Transfer Learning

In this section we will implement a simplified version of the Progressive Networks.

TODO: Explain progressive networks

### {Acrobot, MountainCarContinuous} → Cartpole

1. Hyperparameters
2. Loss
3. Average Reward vs average reward untrained vs finetuning
4. Time

### {Cartpole, Acrobot} → MountainCarContinuous

1. Hyperparameters
2. Loss
3. Average Reward vs average reward untrained vs finetuning
4. Time

**Key Points**