



#### Simon Hirländer

#### Tutorial RL4AA



- Can the knowledge acquired from learning many different tasks be leveraged to expedite and improve the learning process for new tasks?
  Meta-learning = learn to learn
  Comes in many flavours we focus on
- gradient based meta-learningClosely related to multi task learning- in
- multi-task is the task provided explicitly
  Meta-learning distinguishes itself by its ability to infer tasks and its <u>explicit</u> focus on rapidly adapting to new task



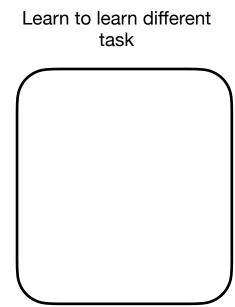








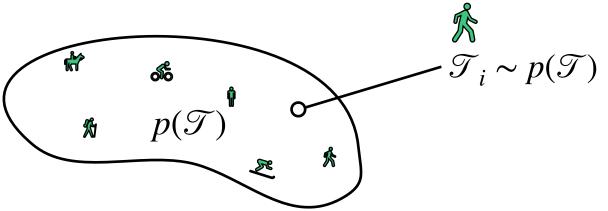




## Fast when learning a new task



### Meta RI

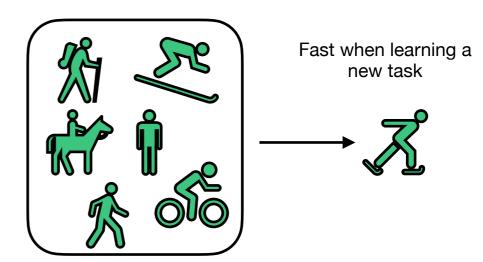


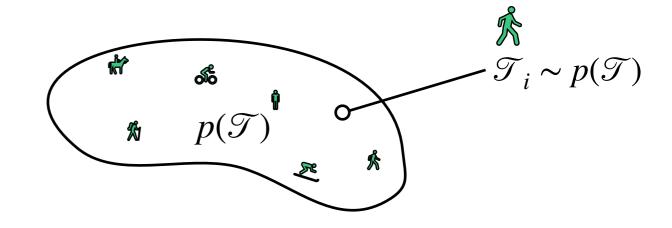
# What is meta-RL?

- Can the knowledge acquired from learning many different tasks be leveraged to expedite and improve the learning process for new tasks?
- Meta-learning = learn to learn
- Comes in many flavours we focus on gradient based meta-learning
- Closely related to multi task learning- in multi-task is the task provided explicitly
- Meta-learning distinguishes itself by its ability to infer tasks and its <u>explicit</u> focus on rapidly adapting to new task

### **Meta RL**

Learn to learn different task









# Model Agnostic Meta Learning (MAML)



