

Software Requirement

REINFORCEMENT LEARNING

Introduction to Reinforc... 3/3

Markov Decision Proce... 12/23

Reinforcement Learning 0/16

GAME THEORY

Game Theory 24/24

PROJECT

Project Details 4/6

- ✓ Overview
- ✓ Software Requirements
- ✓ Common Problems with PyG...
- ✓ Starting the Project
- Definitions
- Submitting the Project

Submission

Description

In the not-so-distant future, taxicab companies across the U.S. will no longer require human drivers to operate their fleet of vehicles. Instead, the driving agents, known as *smartcabs*, to transport people from one location to another in cities those companies operate. In major metropolitan areas like New York City and San Francisco, an increasing number of people have come to rely on taxis where they need to go as safely and reliably as possible. Although self-driving is a transport of choice, concerns have arisen that a self-driving car might not be as reliable as human drivers, particularly when considering city driving. To alleviate these concerns, your task as an employee for a national taxi company is to use reinforcement learning techniques to construct a demonstration program that proves that both safety and reliability can be achieved.

Software Requirements

This project uses the following software and Python libraries:

- Python 2.7 (<https://www.python.org/download/releases/2.7.13/>)
- NumPy (<http://www.numpy.org/>)
- pandas (<http://pandas.pydata.org/>)
- matplotlib (<http://matplotlib.org/>)
- PyGame (<http://pygame.org/>)

If you do not have Python installed yet, it is highly recommended that you use the <http://continuum.io/downloads> distribution of Python, which includes NumPy, pandas, and more included. Make sure that you select the Python 2.7 installer. pygame can then be installed using one of the following commands:

Mac: `conda install -c https://conda.anaconda.org/conda-forge/pygame`
 Linux: `conda install -c https://conda.anaconda.org/conda-forge/pygame`
 Windows: `conda install -c https://conda.anaconda.org/conda-forge/pygame`

Please note that installing pygame can be done using pip as well.

You can run an example to make sure pygame is working by running:

```
python -m pygame.examples.aliens
```

Software Requirement

REINFORCEMENT LEARNING

Introduction to Reinforc... **3/3**

Markov Decision Proce... **12/23**

Reinforcement Learning **0/16**

GAME THEORY

Game Theory **24/24**

PROJECT

Project Details **4/6**

- ✓ Overview
- ✓ Software Requirements
- ✓ Common Problems with PyG...
- ✓ Starting the Project
- Definitions
- Submitting the Project

Submission