RL

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# **Chapter 1**

## RL

## Overview

Reinforcement Learning (RL) allows to improve the selection of applicable Knowledge Items (actions) based on states and rewards.

## Chapter 2

## **Module Documentation**

### 2.1 Entities

2.1.0.1 ogit/RL/LearningStatistics

RDF Schema for learning service statistics.

• id: http://www.purl.org/ogit/RL/LearningStatistics

• valid-from: Thu Apr 07 00:00:00 UTC 2022

• creator: Liudmyla Nechepurenko

• scope: NTO

· parent: ogit/Node

#### attributes

- · optional:
  - ogit/RL/gamma
  - ogit/RL/qValues
  - ogit/RL/returnsCount
  - ogit/RL/returnsSum
  - ogit/RL/totalRewardsSum

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#### 2.2 Attributes

#### 2.2.0.1 ogit/RL/totalReward

Specifies the total reward of the issue for Reinforcement Learning.

```
• id: http://www.purl.org/ogit/RL/totalReward
```

· valid-from: Thu Jan 02 00:00:00 UTC 2020

· creator: Rudi Schäfer

#### 2.2.0.2 ogit/RL/qValues

Specifies the q value of the state/action pairs in Reinforcement Learning.

```
• id: http://www.purl.org/ogit/RL/qValues
```

· valid-from: Thu Apr 07 00:00:00 UTC 2022

· creator: Liudmyla Nechepurenko

used

- · optional:
  - ogit/RL/LearningStatistics

#### 2.2.0.3 ogit/RL/returnsCount

Specifies the number of returns calculated for a particular state/action pair in Reinforcement Learning.

```
• id: http://www.purl.org/ogit/RL/returnsCount
```

· valid-from: Thu Apr 07 00:00:00 UTC 2022

• creator: Liudmyla Nechepurenko

used

- · optional:
  - ogit/RL/LearningStatistics

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#### 2.2.0.4 ogit/RL/gamma

Discount factor in calculating the discounted reward for Reinforcement Learning.

```
• id: http://www.purl.org/ogit/RL/gamma
```

· valid-from: Thu Apr 07 00:00:00 UTC 2022

· creator: Liudmyla Nechepurenko

used

- · optional:
  - ogit/RL/LearningStatistics

#### 2.2.0.5 ogit/RL/totalRewardsSum

Specifies the sum of all total rewards aquired for a specific state/action in Reinforcement Learning.

```
• id: http://www.purl.org/ogit/RL/totalRewardsSum
```

valid-from: Thu Apr 07 00:00:00 UTC 2022

· creator: Liudmyla Nechepurenko

used

- · optional:
  - ogit/RL/LearningStatistics

### 2.2.0.6 ogit/RL/returnsSum

Specifies the sums of all returns calculated for a specific state/action in Reinforcement Learning.

- id: http://www.purl.org/ogit/RL/returnsSum
- valid-from: Thu Apr 07 00:00:00 UTC 2022
- · creator: Liudmyla Nechepurenko

used

- optional:
  - ogit/RL/LearningStatistics

### 2.2.0.7 ogit/RL/state

Specifies the state of the issue for Reinforcement Learning.

- id: http://www.purl.org/ogit/RL/state
- valid-from: Thu Jan 02 00:00:00 UTC 2020
- · creator: Rudi Schäfer