

Storyboard

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Storyboard

Epic 1

We aim to use reinforcement learning to build a model that can assist actors managing a power grid system to maintain the stability of power generation and distribution in the event of an attack or failure of a small portion of the power grid. Through building the model we are expected to write paper and submit to the conference.

Theme 1.1

We need to first learn reinforcement learning and different techniques in order to build a efficient model.

Story 1.1.1 (finished)

We are going to take some video lecture provided by different institutions.

Status

Finished

Story 1.1.2

We are going to meet with our clients to discuss about what we learned. Clients will teach us on topics in more detail that we are confused about.

Theme 1.2

We need to get familiarity with simulators like city-learn.

Story 1.2.1

We will first do some eda to understand how city-learn works.

Status

Finished(We actually met original scholars to ask question on the simulator)

Story 1.2.2

We will replicate the result of original paper

Status

Finished

Theme 1.3

We will start implementing algorithms into city-learn or different simulators and evaluate the performance for each algorithms.

Story 1.3.1

Implement few algorithm that we have thought in order to improve the model

part1

Implement autocorrelation into original pipeline

part2

Implement recurrent neural network into original pipeline

part3

Use moving variance to capture the volatility of demand curve for reward function

Story 1.3.2

We will read different most updated papers on reinforcement learning and apply those model into our environment.

Theme 1.4

We will start writing our results into a paper for submission in conference

Story 1.4.1

Start reading relevant research papers to write introduction

Story 1.4.2

Start visualzing our results for paper

Story 1.4.3

Start reading research paper from domain field to improve the given simulator.

Theme 1.5

We will start working to produce a conference paper

Story 1.5.1

Start organizing our result and write them into a paper