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September 5th, 2016

Machine Learning Research HW

Pokemon Go Map Spawning Algorithm, Reference 1:

<https://www.youtube.com/watch?v=s4PDm_TIqvs>

Did people use machine learning to solve it? Describe.

If YES, give a summary about the machine learning techniques that were applied, challenges, etc. How are the results and describe what you think can be done.

If NO, give a summary about the kind of other solutions that were used, what is your guess about why people did not use machine learning for it and why you think this can be solved with machine learning and describe what you think can be done.

Add this information including some references to your github folder, in the class project repository.

A: YES: Machine learning was used to discover the existence of “spawn points”. Ever since release, spawns have been dictated by a spot that spawns pokemon every hour for a 15 minute lifespan. By “scanning” large areas repeatedly, we were able to map spawns for an area. Unfortunately, spawn points don’t tell us the entire story. By scanning several large areas and looking at correlations and patterns across examples, they were able to guesstimate the Pokemon Go spawning system. Unfortunately this algorithm does not have enough detail to adequately describe what may be around an area.

Pokemon Go Map Spawning Algorithm, Reference 2:

https://rankedboost.com/pokemon-go/catching-locations/

Did people use machine learning to solve it? describe.

If YES, give a summary about the machine learning techniques that were applied, challenges, etc. How are the results and describe what you think can be done.

If NO, give a summary about the kind of other solutions that were used, what is your guess about why people did not use machine learning for it and why you think this can be solved with machine learning and describe what you think can be done.

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A: NO: In this article they examine the concept of “biomes”. This problem was primarily figured through anecdotal evidence and recognizing patterns. Essentially pokemon seem more likely to spawn together based on the area of where you are. For example you can generally find water pokemon like Magikarp, Slowpoke, Horsea, Psyduck, and others around lakes and streams (especially saltwater). Another biome suggested is the fairy/psychic biome that generally spawns around churches and hospitals. The knowledge of Biomes is incredibly useful as a player will attempt to fill out their pokedex. If you are missing a Slowbro, you know that can only be acquired by going to a spot near the water. Biomes also diversify the game. Being in New Orleans, we have a large amount of access to water, residential, and city biomes. Unfortunately we would have a hard time finding Pokemon that spawn more frequently in desert, mountain, hilly, or parks (outside of Audubon & City). This article also mentions the existence of “nests”. Nests are areas that have extremely high spawn rates of Pokemon that are (generally) otherwise rare. Audubon Park happens to be a squirtle nest.

Consider the squirtle spawns relative to Eevee (Uncommon) or Bulbasaur (Same rarity as Squirtle). We can see that nearly while Eevees and Bulbasaurs are well spread across the map, nearly all of the Squirtle spawns can be accounted for in an extremely small area at the top area of audubon park. This is known as a “nest”. Nest spawns rotate at times, but as I write this City Park is a Magnemite nest and Louis Armstrong Park is an Exeggcute nest.

I think that the concepts of biomes and nests can be applied to be machine learning by finding patterns in our scanned area. By continually taking in large amounts of data of spawns, I predict that we will be able to predict other spawns.





