Galaxy Zoo - The Galaxy Challenge

Classify the morphologies of distant galaxies in our Universe

$16,000 · 326 teams · 3 years ago

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Overview

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Understanding how and why we are here is one of the fundamental questions for the human race. Part of the answer to this question lies in the origins of galaxies, such as our own Milky Way. Yet questions remain about how the Milky Way (or any of the other ~100 billion galaxies in our Universe) was formed and has evolved. Galaxies come in all shapes, sizes and colors: from beautiful spirals to huge ellipticals. Understanding the distribution, location and types of galaxies as a function of shape, size, and color are critical pieces for solving this puzzle.

The Whirlpool Galaxy (M51). Credit: NASA and European Space Agency

With each passing day telescopes around and above the Earth capture more and more images of distant galaxies. As better and bigger telescopes continue to collect these images, the datasets begin to explode in size. In order to better understand how the different shapes (or **morphologies**) of galaxies relate to the physics that create them, such images need to be sorted and classified. Kaggle has teamed up with Galaxy

Zoo and Winton Capital to produce the **Galaxy Challenge,** where participants will help classify galaxies into categories.
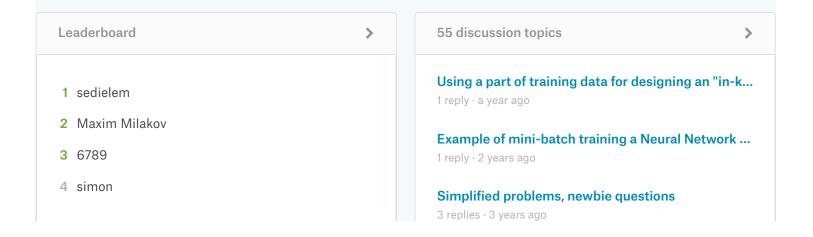

Image Credit: ESA/Hubble & NASA

Galaxies in this set have already been classified once through the help of hundreds of thousands of volunteers, who collectively classified the shapes of these images by eye in a successful citizen science crowdsourcing project. However, this approach becomes less feasible as data sets grow to contain of hundreds of millions (or even billions) of galaxies. That's where you come in.
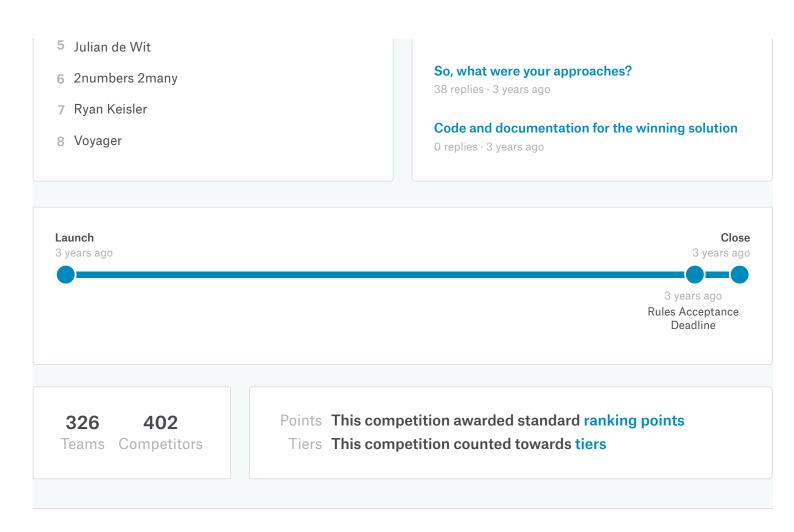
This competition asks you to analyze the JPG images of galaxies to find automated metrics that reproduce the probability distributions derived from human classifications. For each galaxy, determine the probability that it belongs in a particular class. Can you write an algorithm that behaves as well as the crowd does?

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Acknowledgments

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Leaderboard

1 sedielem

2 Maxim Milakov

3 6789

4 simon

55 discussion topics

Using a part of training data for designing an "in-k...
1 reply · a year ago

Example of mini-batch training a Neural Network ...
1 reply · 2 years ago

Simplified problems, newbie questions
3 replies · 3 years ago

5 Julian de Wit

6 2numbers 2many

7 Ryan Keisler

8 Voyager

So, what were your approaches?
38 replies · 3 years ago

Code and documentation for the winning solution
0 replies · 3 years ago

Launch
3 years ago

Close
3 years ago

3 years ago
Rules Acceptance
Deadline

326 **402**
Teams   Competitors

Points **This competition awarded standard ranking points**

Tiers **This competition counted towards tiers**

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