

Exoplanet Ranking

Introduction to Data Science

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October 16, 2019



Outline

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2 Goals

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Motivation

- Earth is facing environmental issues
- An attempt to change habits as to save the Earth
- Finding possible new home – livable exoplanet



Exoplanet

A planet outside the Solar System.

- **Compute livability ranking of exoplanets**
- Find the most sufficient planet to colonize
- Ranking by similarity to the Earth:
 - temperature,
 - gravity,
 - star luminosity, ...
- Create a website displaying the ranking

The Best Exoplanets

Candidate for further research is exoplanet **K2-85** with rank 99.45 (out of 100).

Planet	Earth	K2-85	K2-117
Time to orbit [days]	365.26	0.68	1.29
Radius [EU]	1	1.01	2.03
Mass [EU]	1	1.01	4.78
Stellar gravity [$\log_{10}(\text{cm/s}^2)$]	5.44	4.78	4.75
Stellar luminosity [$\log_{10}(\text{SL})$]	0	-0.84	-1.36
Distance [pc]	0	97.49	101.95
Rank	100	99.45	99.42

Table: Attributes of the best planets

Thank You!