

# Syntax Sorcerers Presentation



# Problem Statement

**Exoplanets** are planets outside our Solar System. Their detection and classification is a very challenging task due to the huge data. This presentation will explore the methods used to detect exoplanets and the search for **water** and **life** on these distant worlds.



# Transit Method

The **transit method** is one of the most successful techniques for detecting exoplanets. It involves measuring the tiny dip in a star's brightness as a planet passes in front of it. This method has been used to discover thousands of exoplanets, including many that are potentially habitable.



# Water Detection

The detection of **water** on an exoplanet would be a major breakthrough in the search for life beyond Earth. Several methods are being developed to detect water on exoplanets, including the study of their atmospheres and the use of direct imaging.

# Habitable Zone

The **habitable zone** is the region around a star where the temperature is just right for liquid water to exist on the surface of a planet. This is considered a key factor in the search for life beyond Earth, as water is essential for life as we know it.





# **Why the chosen problem is the most pressing one in the current environment:**

The Kepler Space Telescope and other advanced instruments have generated an unprecedented amount of data, leading to a massive influx of candidate exoplanet detections. However, accurately identifying and characterizing these candidates is a complex task.

# Why our solution is better than other ways of solving the problem:



Traditional approaches rely on manual feature engineering and statistical techniques. However, these methods struggle to capture complex patterns and relationships within high-dimensional data.



# Financial Sustainability

**Data Services:** Offer data analysis and classification services to researchers, observatories, and institutions involved in exoplanet research. Charge fees based on the complexity and volume of data processed.

**Subscription Plans:** Provide subscription-based access to advanced model features, continuous updates, and priority support. Researchers can benefit from optimized models and timely insights.

# Conclusion

The discovery of exoplanets has opened up a whole new field of astronomy and the search for life beyond Earth. While we have not yet found definitive evidence of life on other worlds, the search continues and new discoveries are being made all the time.

# Thanks!

Team: Syntax Sorcerers