



DATA X

Utilizing Earth Observation Information for Making Decisions

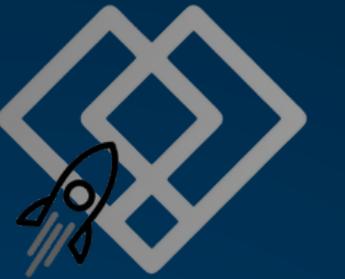
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Welcome to Outer Space



Critical obstacles that farmers' livelihoods and food security are prevalent around the world and include unpredictability in weather patterns, crop loss, disease outbreaks, and problems with money management.

To detect this kinds of problem we need to rely on “Data”

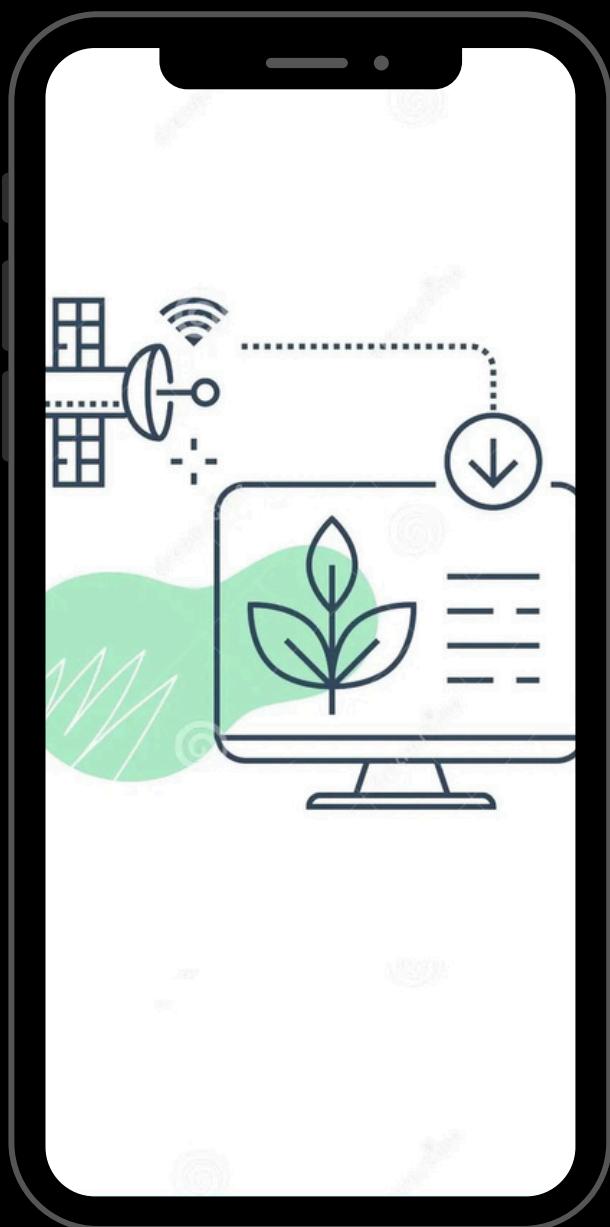




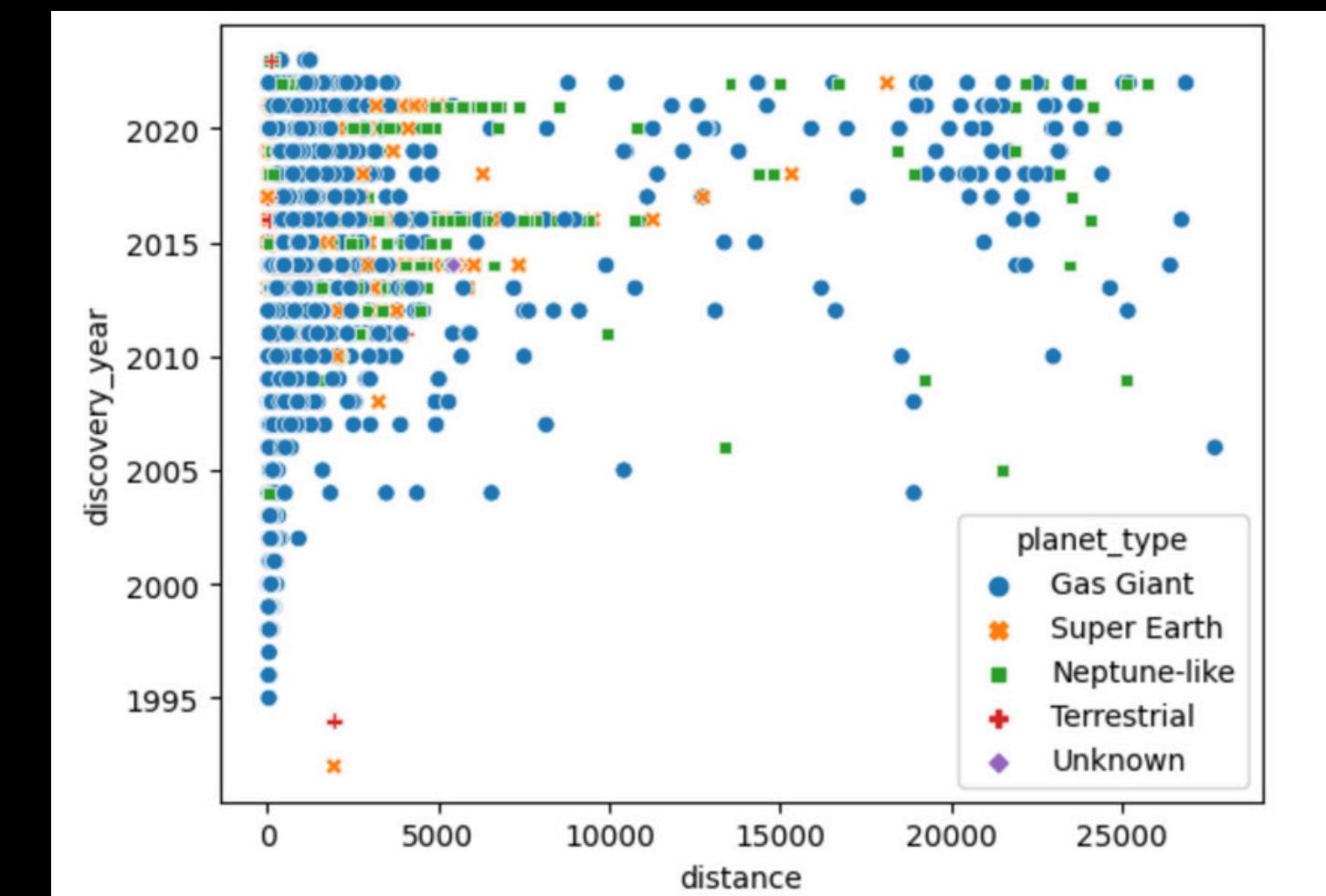
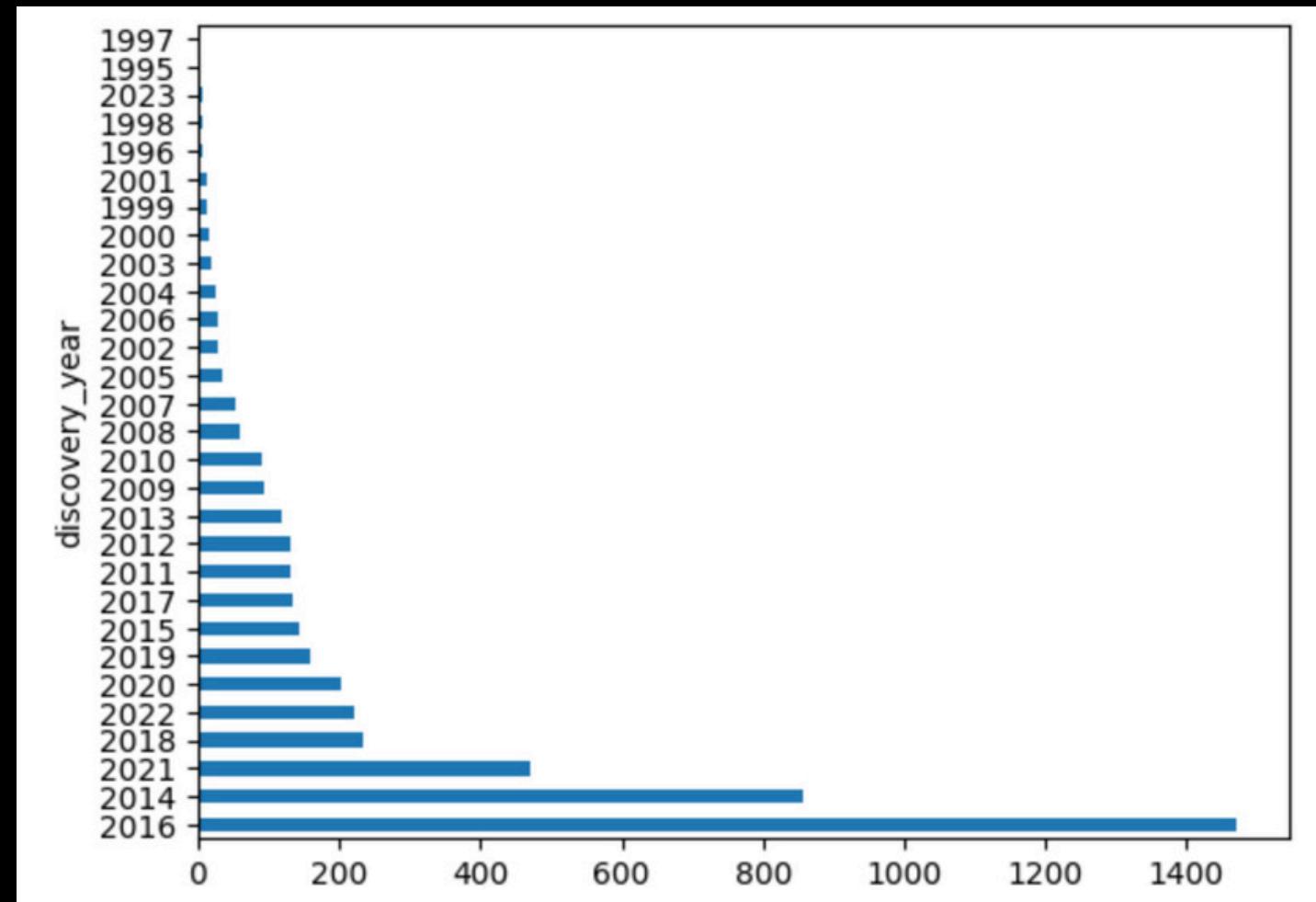
How is actually works ?

Farmers become more productive and efficient by using **automated Earth Observation** (EO) using IoT data for decision-making. Satellites utilize remote sensing technologies to capture high-resolution images of agricultural areas, offering insights into crop health, soil conditions, and land use.

Automated algorithms such as ML interpret this raw data, enabling crop identification through image classification and monitoring growth stages via change detection. Additionally, machine learning techniques analyze trends and predict outcomes based on historical data.



Data analyst sources



We used Python to analyze the data required to predict the future demand as the number of years increases.

Automated Earth Observation with IoT

Gathering of Data:

- Remote Sensing: Satellites acquire data about the Earth's surface.
- Ground Sensors: IoT devices keep an eye on the weather and air quality in the area.

Data Processing and Transmission:

- Data is transmitted to cloud systems via wireless technologies.

This data is analyzed by GIS and machine learning to extract insights.

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Automated Earth Observation with IoT

Users perception :

- User manuals and documentation
- Detailed Manuals: Examine user manuals for detailed instructions on how to operate equipment and interpret data.
- Dashboards: Make it simpler to identify patterns and insights by utilizing user-friendly dashboards that display data in real-time.
- Simulation Tools: Utilize simulation software to give consumers a controlled environment in which to practice utilizing the technology.



Summary

Users can effectively learn to utilize automated Earth observation systems integrated with IoT technologies through several key strategies for participating in workshops and online courses focused on IoT and data analysis provides essential training and education. Additionally, comprehensive manuals and troubleshooting guides serve as valuable resources for understanding system operation. Engaging with user-friendly dashboards and simulation tools allows for hands-on practice, enhancing familiarity with the technology.

