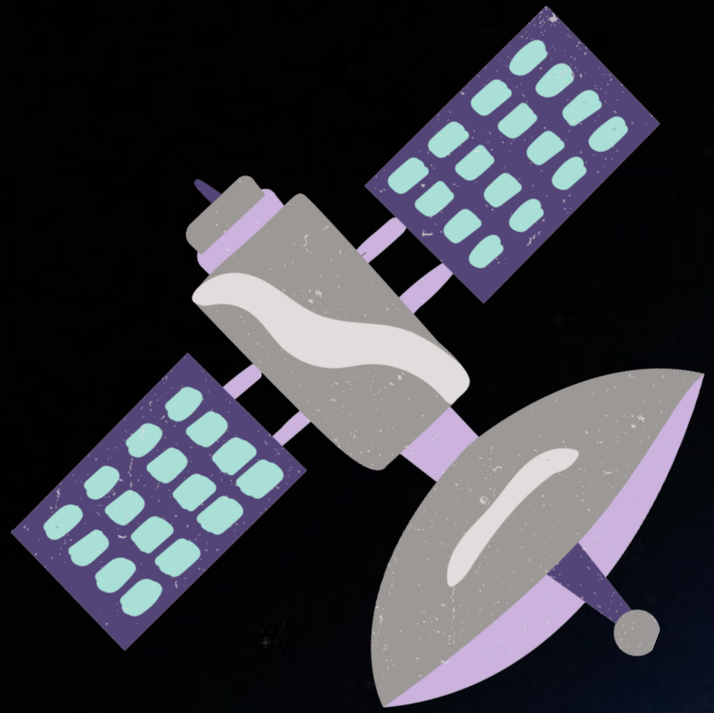

SATELLITE IMAGE PROCESSING AND COMPUTER VISION

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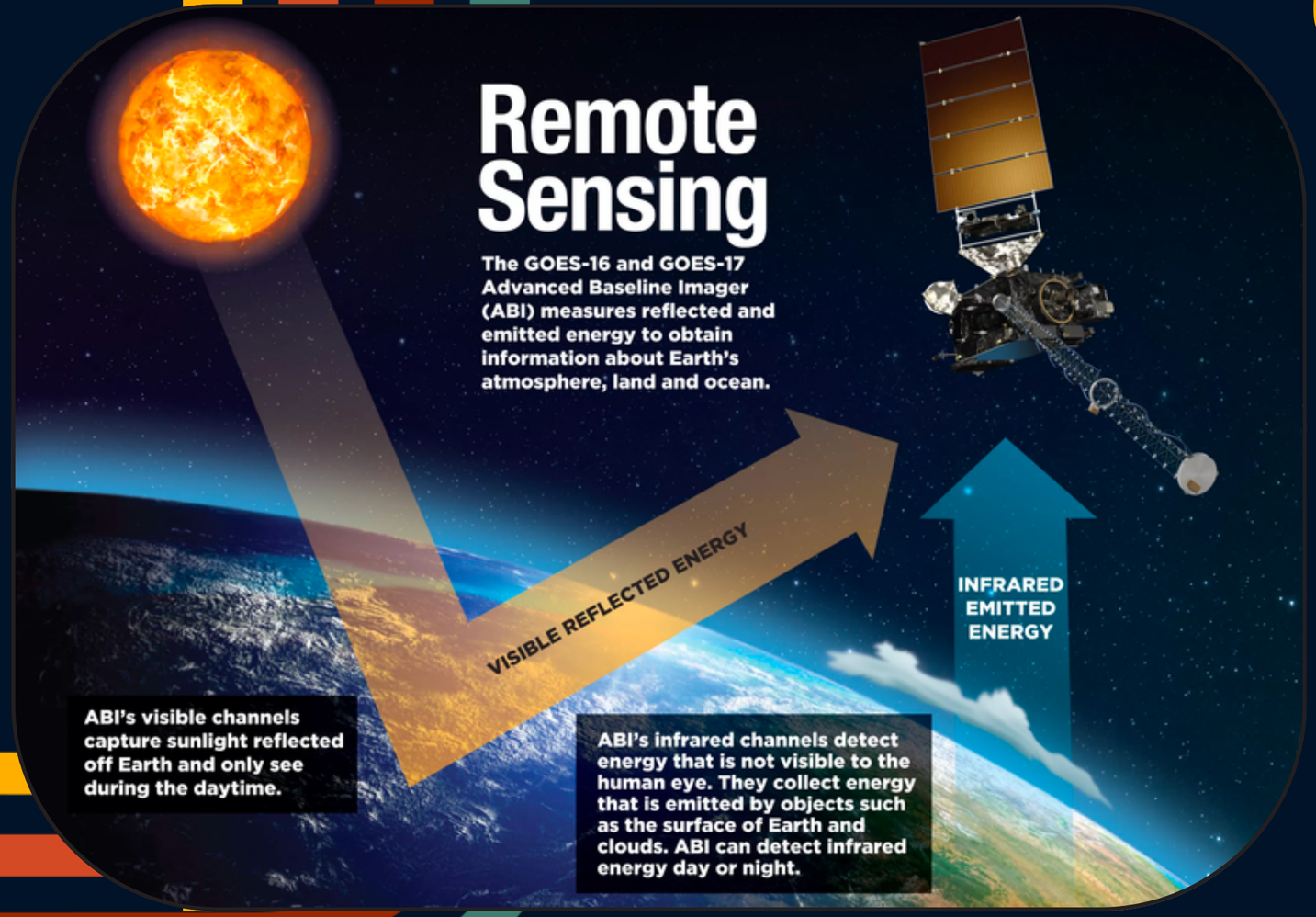
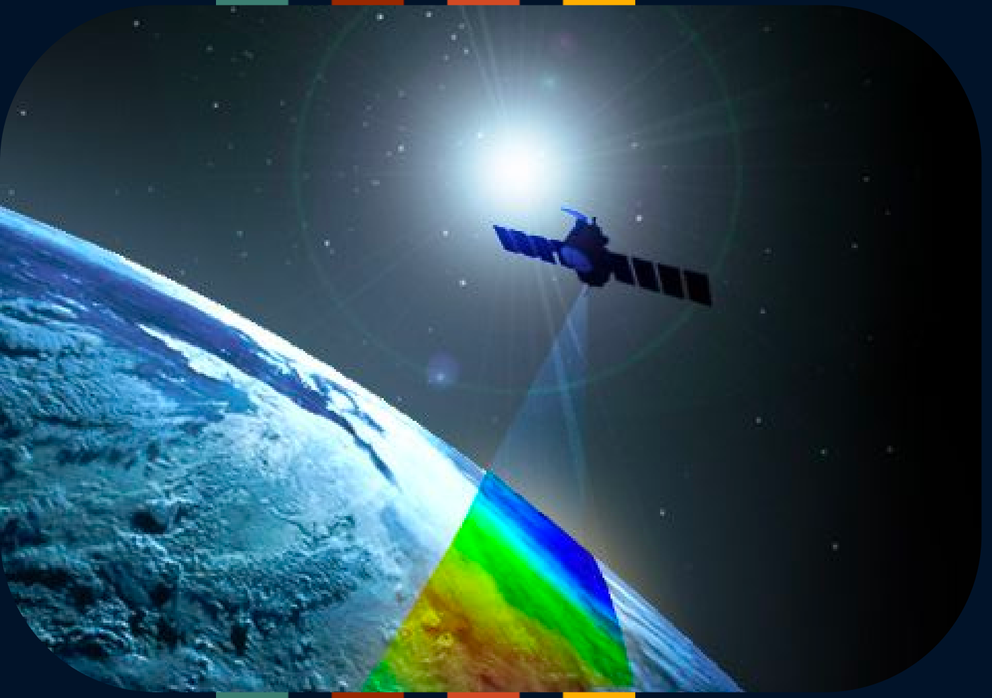
CONTENT

HOW IS AN IMAGE GENERATED USING SATELLITE ?



Satellite imagers use remote sensing to collect information about Earth from above. GOES-R Series satellites carry an instrument called the Advanced Baseline Imager (ABI), which measures energy at different wavelengths along the electromagnetic spectrum.

IMAGE PROCESSING



Satellite image processing is one of the significant computational methods which finds application in military, agriculture, natural disaster prevention, natural resource identification and so forth. However, satellite image processing is extremely complex due to the large dimensions of the satellite images.

It is done using "The Fourier transform" which breaks down the image into its component frequencies. The resulting data was then combined using a process called "interferometry", which allowed the scientists to create a high-resolution images.

COMPUTER VISION

Computer vision is a field of study that focuses on enabling computers to interpret and understand visual data from the world around them. This involves developing algorithms that can recognize objects, track motion, and identify patterns in images and videos.

Two essential technologies are used to accomplish this: a type of machine learning called deep learning and a convolutional neural network (CNN).

APPLICATIONS

1. Image Processing of Corona Virus
2. Astronomical Image Processing
3. Capturing the first image of a black hole through the Event Horizon Telescope (EHT) project
4. Computer Vision Can Help Fight Climate Change
5. Google Maps

REFERENCES

- NDAA(The National Oceanic and Atmospheric Administration)
- The Fourier transform
- Interferometry
- Computer Vision
- Deep learning
- Conventional Neural Network (CNN)

THANK YOU