

CSPC54- Artificial Intelligence and Machine Learning PROJECT

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The main aim of our project is to develop an Astronomy Image Classifier.

The Hubble Space Telescope is an astronomical observatory that was launched on April 24, 1990, and has provided a series of beautiful and wide-ranging images of space, capturing galaxies and comets.

Since 1970 there have been more than 90 Space Telescopes placed into Orbit by NASA and ESA.

It is evident from these facts that there has always been a need for astronomy image classification. We try to classify images into several categories that include constellations, stars, nebulae, planets, etc.

Deep learning techniques are used widely for image recognition and classification problems. Gradually, deep learning architectures have modified to comprise more layers and become a more robust model for classification problems. Convolutional Neural Networks is widely used for image classification as it gives more accuracy in classifying large and complicated images.

A convolutional neural network is a class of deep learning which deals with processing image and video data by extracting features from them and building a neural network by assigning them weights and convolving them with a filter to classify.