Rayan Basu & Ewan Saw 22th October 2020

Haze formation in Titan's upper atmosphere

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OVERVIEW

The aim of the project is to map the different molecular species present in Titan's Atmosphere. Data collected from the Cassini spacecraft's flybys of Titan will be analysed to create predictive models of haze formation using artificial neural networks (ANNs). The ANNs should be able extrapolate the molecular map of a certain area on Titan based on variables such as longitude, latitude, time etc.

We will be constructing our neural network in Python using Keras.

TIMELINE

Week	Date (Sunday)	Goals
2-3	25/10/20	Learn the basics of Keras i.e (implementing basic functions)
4	8/11/20	Make a neural network from scratch and use it to make basic prediction models
5-7	22/11/20	Analyse Cassini data and apply neural networks to the dataset (Progress Report due Friday 13/11/20)
8	29/11/20	Use neural network to obtain results and test accuracy
9-10	13/12/20	Experiment with different numbers of neurons/ activation functions / training time and other variables to improve the neural network.
11	14-18/12/20	Viva
2 (Term 2)	19/01/21	Project Report Deadline