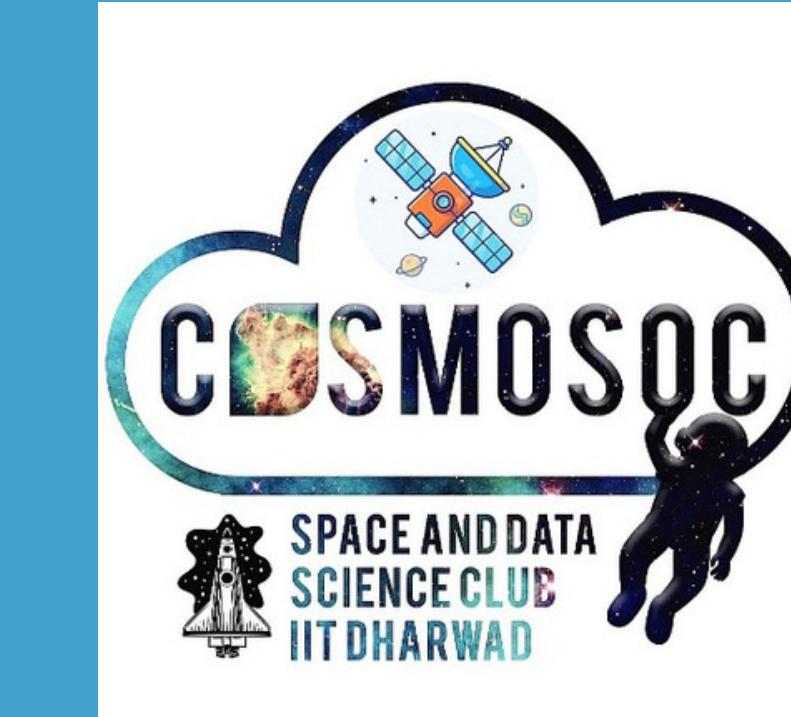


PARSEC

24 March – 26 March
2023

MOISTURE MINDS



COSMOSOC,
SPACE DATA SCIENCE,
IIT DHARWAD

Problem Statement Description



Soil moisture is an important variable that affects the growth of crops and the overall health of agricultural lands. Predicting Soil Moisture beforehand can be very useful in various fields, from agriculture to natural disaster management and climate modeling. Predicting soil Moisture can help us in controlling droughts, they can help farmers in planning their irrigation schedules, seed planting, harvest timing, etc. In this competition, your task is to predict soil moisture levels at a specific location based on the previous 8 months of soil moisture data along with temperature, and humidity values at the location.

Task

You are required to build a machine-learning model that can predict soil moisture levels for March 2023, based on the previous 8 months of data. Your model should take in daily soil moisture measurements from July 2022 to March 10, 2023, and output predicted soil moisture measurements for March 2023.



Basic Requirements

01

Model

Your Model is expected to predict the soil Moisture values for the entire month of March,2023.

02

Report

The participating teams must make a report at the end of the competition based on what they learnt

03

Presentation

Make a nice Poster of describing your work and a short Presentation to show your peers and others

04

Resources

To make the competition even for everyone the results shown in the report should be obtained by running your models on CPU not GPU.

Data

The dataset contains daily soil moisture measurements from July 2022 to March 10, 2023, at our Space Data Science Lab, IIT Dharwad. Each data point consists of a date, corresponding soil moisture measurement, and other attribute values.

Your task is to use this data to predict soil moisture levels for the month of March, 2023.

You can find the training data here:

<https://github.com/chidaksh/CosmosocClub/tree/master/Parsec2023>



Submission

What to Submit

You need to submit the link to the GitHub repository containing your code (preferably google colab files, but python scripts are also accepted with a script file).

The repo should have a ReadMe file clearly explaining how to download and run your python scripts or jupyter notebooks. (Make sure the repository you submit is a public repository)



CODES AND DOCUMENTATION

Submissions

01

Report/Documentation

The teams are supposed to make a brief report which should include the working and results(performance of model).



02

ReadMe

All teams must create a ReadMe file which will have all the necessary details related to getting the project working. Improper instructions written in the file will lead to penalty.



03

Submission

The complete project must be submitted as a GitHub repository, which will include all the codes, report, readme file or any other files.

04

Presentation

Make a poster and short presentation describing your work. On 26th March stalls will be arranged where you can display your work to other contingents

Evaluation Criteria

Machine learning model:

Evaluation criteria will be based on the following:

01. Points will be awarded based on your model and the accuracy of the model you designed. Overall creativity will be judged. This applies not only to your use of a unique machine learning technique, but could also be a unique problem formulation, visualization of the data, evaluation metric, or use of existing tools
 02. Points will be awarded based on the Report/Documentation and ReadMe you submitted. Give a brief description for each and every point in the documents you submit.
 03. And Web-based application is not compulsory, but if did bonus points will be awarded based on your application.
-
- Team size for this event is 3-6 participants. (Minimum 3 to Maximum 6)

Weightages of different Components

01

Submission

Your Model should be precise and should be able to reproduce the results given in your report. 60% of the points will be awarded for this.

02

Report/Documentation :

Your Report will be evaluated for 20% of the points. You can add further developments as well in your report.

03

Presentation

Your Presentation and Poster will be evaluated for 15% of total points.

04

ReadMe

The ReadMe File should be well written for the Repo you submit. This will carry 5% of total points

ALL THE BEST