# DAILY ACTIVITIES REPORT

## Remote sensing of tobacco fields: detection of tobacco fields and area of the fields in Mozambique and Malawi

**Philip Morris International company**

## Week 1 Residency Completed tasks 20-24/09/2021

20/09/2021: Welcoming and introducing and interaction with other fellows and AIMS staff

21/09/2021: Orientation call with PMI company

Group presentation

22/09/2021: Reading AWS and Papers about Field identification using RS

23/09/2021: Team catch up with PMI company

Setting up computer with some installation of all packages

24/09/2021: Download the sentinel 2 data using python

## Ongoing tasks

Download sentinel data

## Challenges

Some products are not online, it is not possible to download it

## Week2 Residency Tasks for this week 27 – 01/10/2021

27/09/2021: Download sentinel data

Understand the products which will got after downloading sentinel data

28/09/2021: Pitch training

Team meeting with PMI company

Visualization of Sentinel data

29/09/2021: Extraction of information from sentinel data using NDVI

30/09/2021: Extraction of information from sentinel data using NDVI

01/10/2021: Try to put all in function

**Challenges:** Task nor done due to my laptop crashed due to memory error. Ex:

**MemoryError**: Unable to allocate 920. MiB for an array with shape (10980, 10980) and data type float64

## Week3 Residency Tasks for this week 04 –0 8/10/2021:

04/10/2021: Download new data by taking small part of Malawi and increased cloud-cover percentage and big range of period.

**Challenges:** The most of the products was not online. I remember I got 980 products no one available online.

05/10/2021: Proceed to get information from new data.

Analysing NDVI

06/10/2021: Sentinel-2 clustering using NDVI images using KMeans

Train model using KMeans

Predict model.

07/10/2021: Catch up with PMI people

Read about NDVI using time series.

Training session about Application of data science in Finance.

08/10/2021: Make research on NDVI time series data.

Read some papers about NDVI time series data

## Week4 Residency Tasks for this week 11 –15/10/2021:

11/10/2021: Project review meeting with PMI people.

Read how to use AWS SageMaker

12/10/2021: Making class to download sentinel-2 data.

Read how to use Google Earth Engine

Read about NDVI using time series.

13/10/2021: NDVI time series data using Google Earth Engine with landsat

14/10/2021: NDVI time series data using Google Earth Engine with landsat

Catch up meeting with PMI people

Read how to get NDVI time series data using sentinel data.

15/10/2021: landsat\_8\_timesereis\_with\_Altair, line bar.

**Challenges: I did not find**

18/10/2021: Preparing pipeline using Vscode with Github.

19/10/2021: Preparing midterm presentation.

20/10/2021: Pitch training

Prepare slides of presentation and practices

21/10/21021: Midterm presentation for our team and others

22/10/2021 Midterm presentation others.

23/10/2021: Read paper about supervised crop classifications

Read how we can labelled data of crop types on Radiant MLHub

**Challenges:** Data was too large about 250GB compare to our machine, we can’t download it.

Done at Kigali Rwanda

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