



AguroTech end ideation meeting

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Challenges

- Find a way for satellite images to enhance the already existing prediction model for crop yield/irrigation.



Starting off

- Literature research
- Different satellite API's
- Existing datasets



Limitations

- Satellite API access
- Satellite resolution
- Existing datasets



Proposal research question

- Satellite images, increase time and scale



Proposal research question

- How much accuracy improvement does satellite imagery provide for predicting yearly crop yield per country?



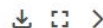
Defining improvement

- Forecasting improvement using satellite imagery is defined as a higher prediction accuracy compared to not using satellite imagery and only weather, pesticide and soil data for predicting crop yield



Kaggle crop yield dataset



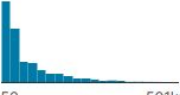

yield_df.csv (1.57 MB)



Detail Compact Column

8 of 8 columns

Yield_df.csv is final dataset processed by cleaning & merging of pesticides, yield, rainfall & avg. temperature.

#	Area	Item	Year	hg/ha_yield	average
	Country	Crops	Year	Area yield	Average r
0		Potatoes 15% Maize 15% Other (19845) 70%			
0	Albania	Maize	1990	36613	1485.0
1	Albania	Potatoes	1990	66667	1485.0
2	Albania	Rice, paddy	1990	23333	1485.0
3	Albania	Sorghum	1990	12500	1485.0
4	Albania	Soybeans	1990	7000	1485.0
5	Albania	Wheat	1990	30197	1485.0
6	Albania	Maize	1991	29068	1485.0
7	Albania	Potatoes	1991	77818	1485.0
8	Albania	Rice, paddy	1991	28533	1485.0

Data Explorer

Version 1 (7.61 MB)

- pesticides.csv
- rainfall.csv
- temp.csv
- yield.csv
- yield_df.csv



Enhancement question

- What is the optimal time interval for satellite data in terms of accuracy/overfitting/computing power



Questions?