Agriculture Database Development

Brings Economic and Academic Value for American Agriculture

Name:Hanwen Wang, NetId hw544
Advisor: Joshua Woodard, Peter Jessel

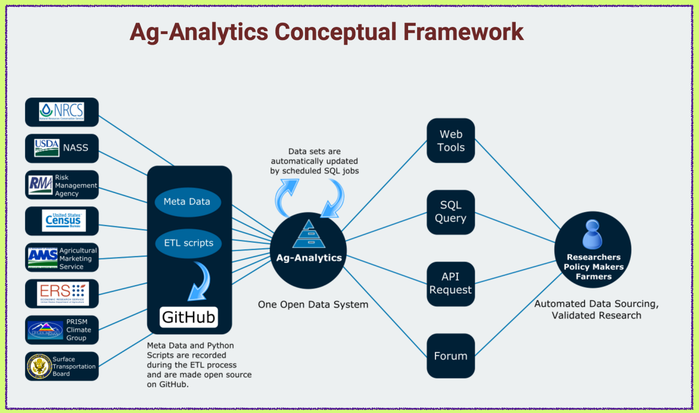
Abstract

- We aim to build a database that stores American agriculture data.
- Big data is useful in agriculture economic.
- We can use data to predict the price of crops, yields of crops and so on.

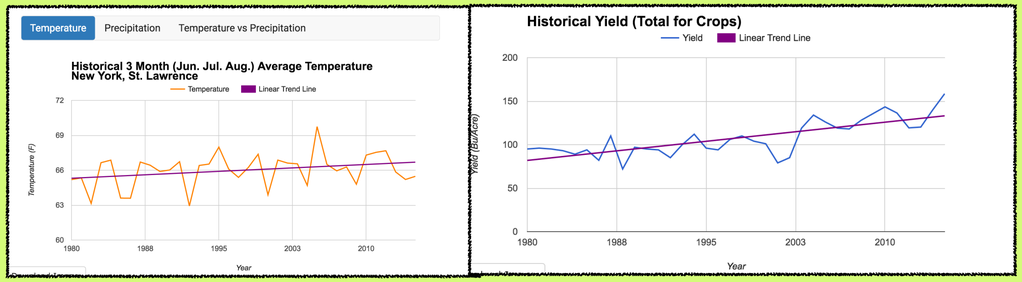
Objective

- Warehouse important American agriculture data so Researchers and clients can get agriculture data
- Provide APIs for users to query our database easily.

What we do



For example, we know what kinds of crops are planted in America. We also know what's temperature and precipitation everyday. Using these data we can predict the yield and price of crops in different areas of America .

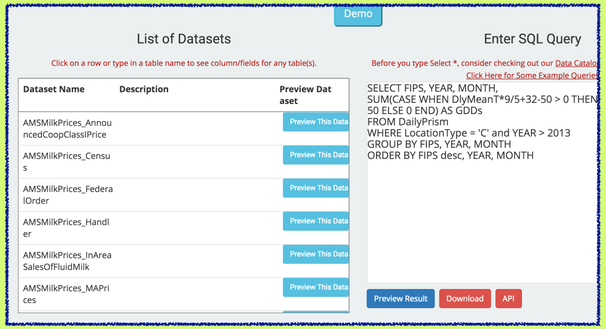


How we do it

- Use web scraping to source agriculture data from government website and put the data into our database
- Build API tools so users can use C#, Python, Matlab, R to get data
- Using machine learning and statistics method to learn secrets
- Build back-end programs to ensure our website can run reliably.

Back-end development

we build back-end website to track the status of our database such as how many queries run everyday and where the request comes from. We also set programs to monitor the website so if something happens, we can know it immediately.



Data source

We collect data from broad areas including environment, economics and so on. The main source of data is government website because of its reliability.

Conclusions

- We aim to build agriculture database.
- We build back-end programs to make sure our database and website runs reliably
- we collect data from wide sources, then clean data and store it into database

Link to our website: https://agfinance.dyson.cornell.edu/AgRiskManagement/ResAgDataQuery