Plan.It

Technology Review
February 20, 2020

Project Goal

Provide renewable energy technology implementation recommendations to residents, utilities, and governments.

- Predict cost of implementation
- Estimate timeline of implementation
- Interface with user

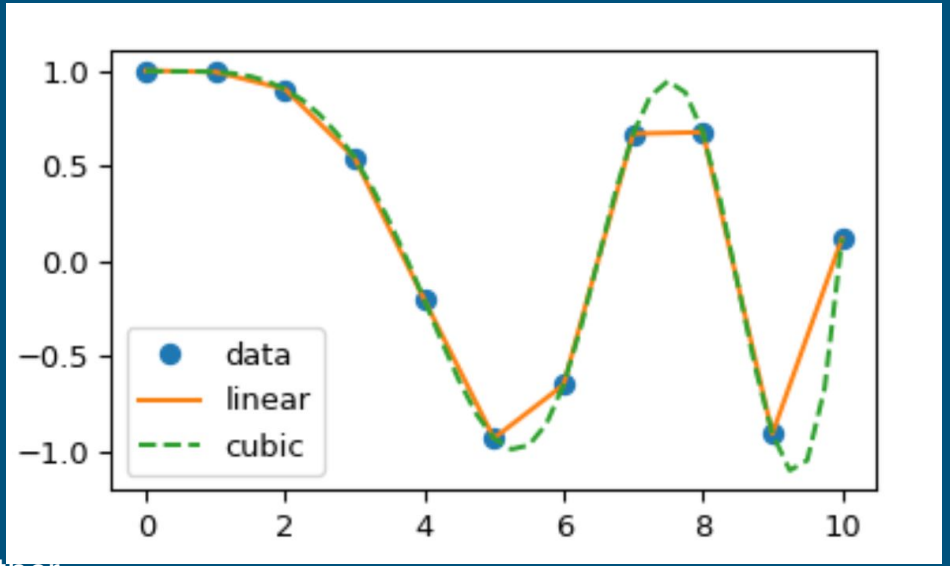
Requirements:

- Statistics handling
- Machine learning integration
- Visualization with interactivity

Statistics

SciPy

- Interpolate
  - Handling multi-dimensional representations
- Stats
  - Facilitating predictions
- Spatial
  - Handling distances between weather stations



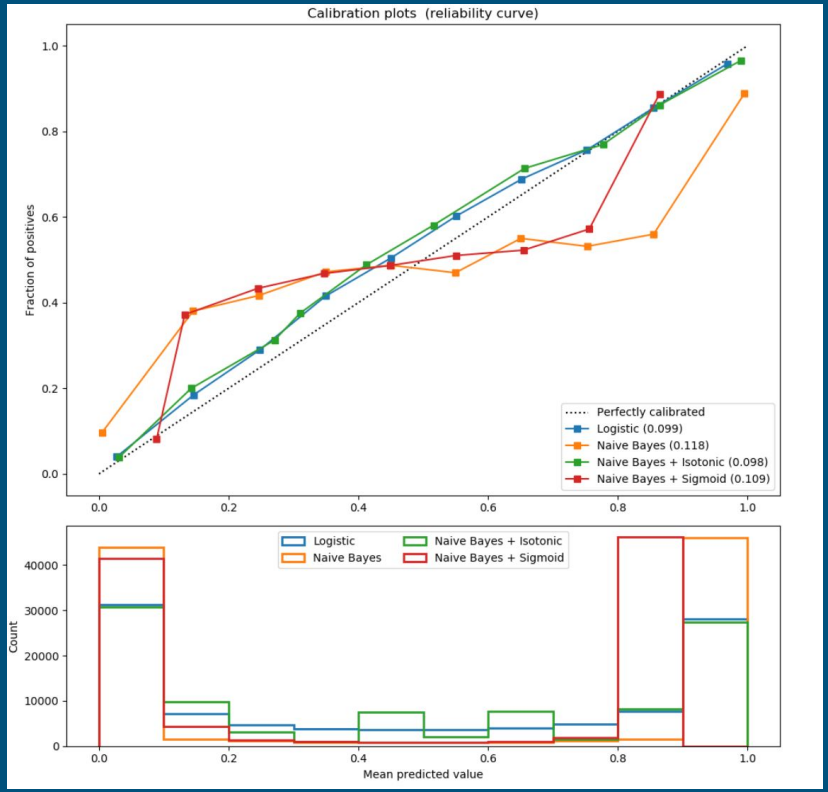
Machine Learning (ML)

Scikit-learn:

- Supports classification, regression, clustering, preprocessing, etc.
- Well documented
  - Large number of examples to reference
- Utilizes numpy and scipy

Alternative packages:

- MLlib - limited flexibility
- XGBoost - computationally expensive compared to scikit-learn



Visualization

Matplotlib:
- Extremely customizable
- Too many moving parts

Geoplotlib:
- Handles maps
- Not super familiar

Seaborn:
- Cool plots! Slightly more intuitive than Matplotlib
- None of us are fans

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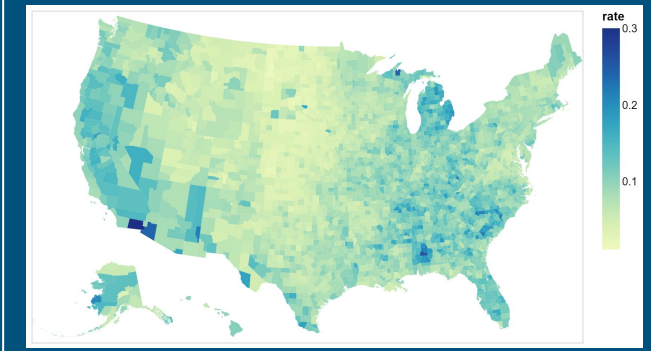
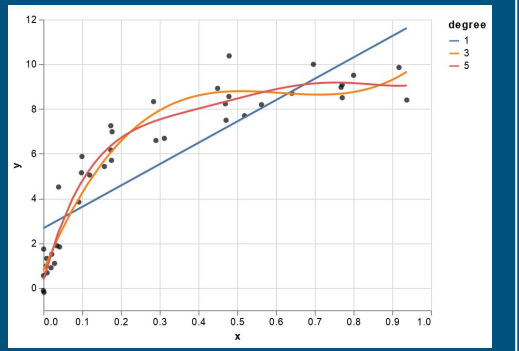
- Handles maps beautifully, intuitive commands, wide-range of functionality
- Newer/unfamiliar but *well documented*





The world is on fire so let's try to do something (anything) about it.