CAPSTONE IDEAS

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Idea 1: Predicting Montgomery County 311 Volume based on the weather

- The Business Problem
  - *Does Montgomery County's non-emergency 311 service receive more calls after "adverse" weather.*
  - *Can predicting call volumes help staffing or come up with innovative ideas (e.g. call center employees working at home) for peak volume situations.*
- Datasets
  - *Montgomery County 311 Data*
    - 3.44 million (and growing) rows of data from 2012+
    - 24 columns of data
  - *NOAA Weather Data*
    - Daily by Zip Code or County
- Model
  - *Features*
    - Month
    - Day
    - Precipitation (inches)
    - Snow (inches)
    - Extreme Weather Types: (wind, ice, freezing rain)
- *Target*
  - *Predicted Next Day Call Volume*

Idea 2: Kiva (a crowd-funding lending site) provides a ton of data to the community

- Datasets
  - *Kiva has three data sets they upload daily*
  - *Loans (2GB of records)*
  - *Lenders (200 MB of records)*
  - *Loans-Lenders (the relationship table)*

- Model
  - *Features*
    - location
    - date
    - Location
    - loan_amount
    - Status
    - Sector
    - (other fields available)

- Target: There are a lot of possibilities…
  - *Predicting a loan's success*
  - *Predicting usage after a natural disaster*
  - *Providing feedback back to Kiva about untapped markets*

Idea 3: Provide the probability of getting a parking ticket in Montgomery County

- Business Problem
  - *The model will predict the probability of getting a ticket within the time needed to park*
- Datasets
  - *Montgomery County Department of Transportation Data*
    - ~145,000 records

- Features
  - *Month*
  - *Day*
  - *Location*

- Target
  - *Probability of getting a parking ticket (include margin of error?)*