



# Smart Meter Data?

- Half hourly meter-readings
- Spot market prices
- More insight in consumption
- Balancing the grid



# Methodology and Tools

Data Collection

kaggle

UK  
Power  
Networks  
Delivering your electricity

EDA

PySpark



NumPy

Modeling

PROPHET

scikit  
learn

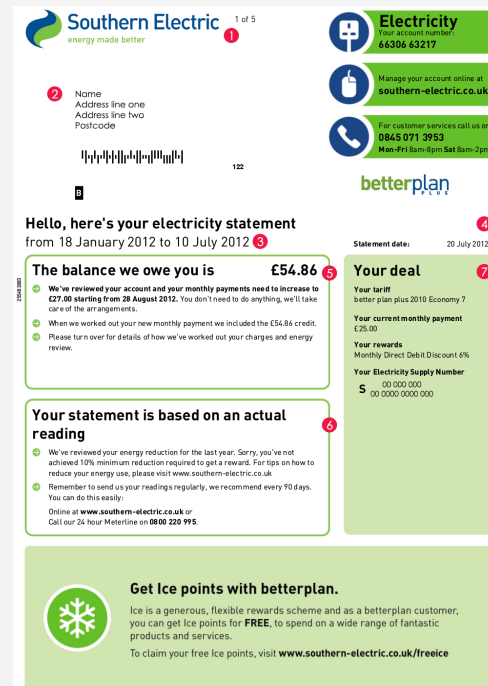
Pandas

Visualization

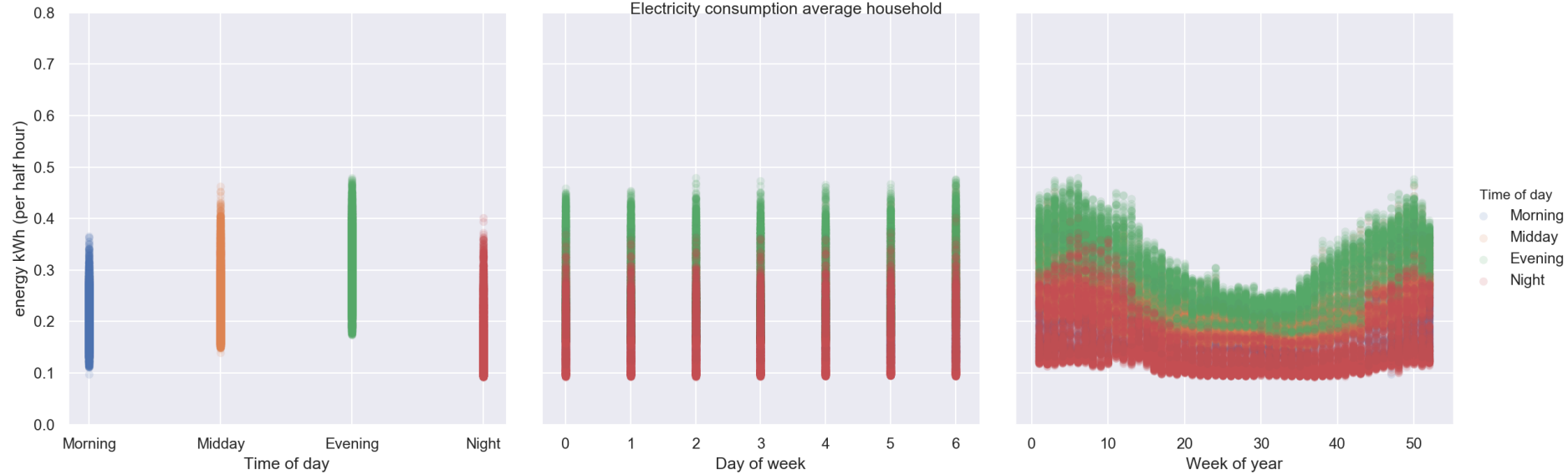
matplotlib

# Deeper Insight Into The Data

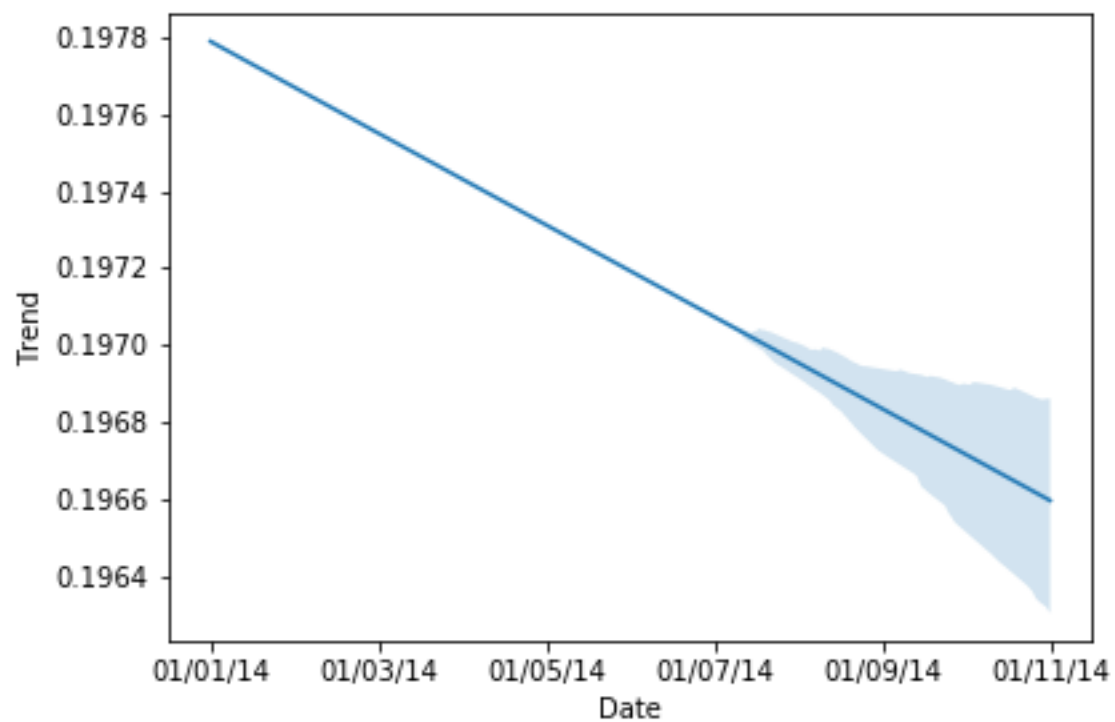
- 111 blocks (household grouped by Acorn Data)
- Total of 5,567 households
- Period between November 2011 and February 2014
- Total around 167 million meter readings
- Three groups of households:
  - Affluent
  - Comfortable
  - Adversity
- Weather data for same period as readings



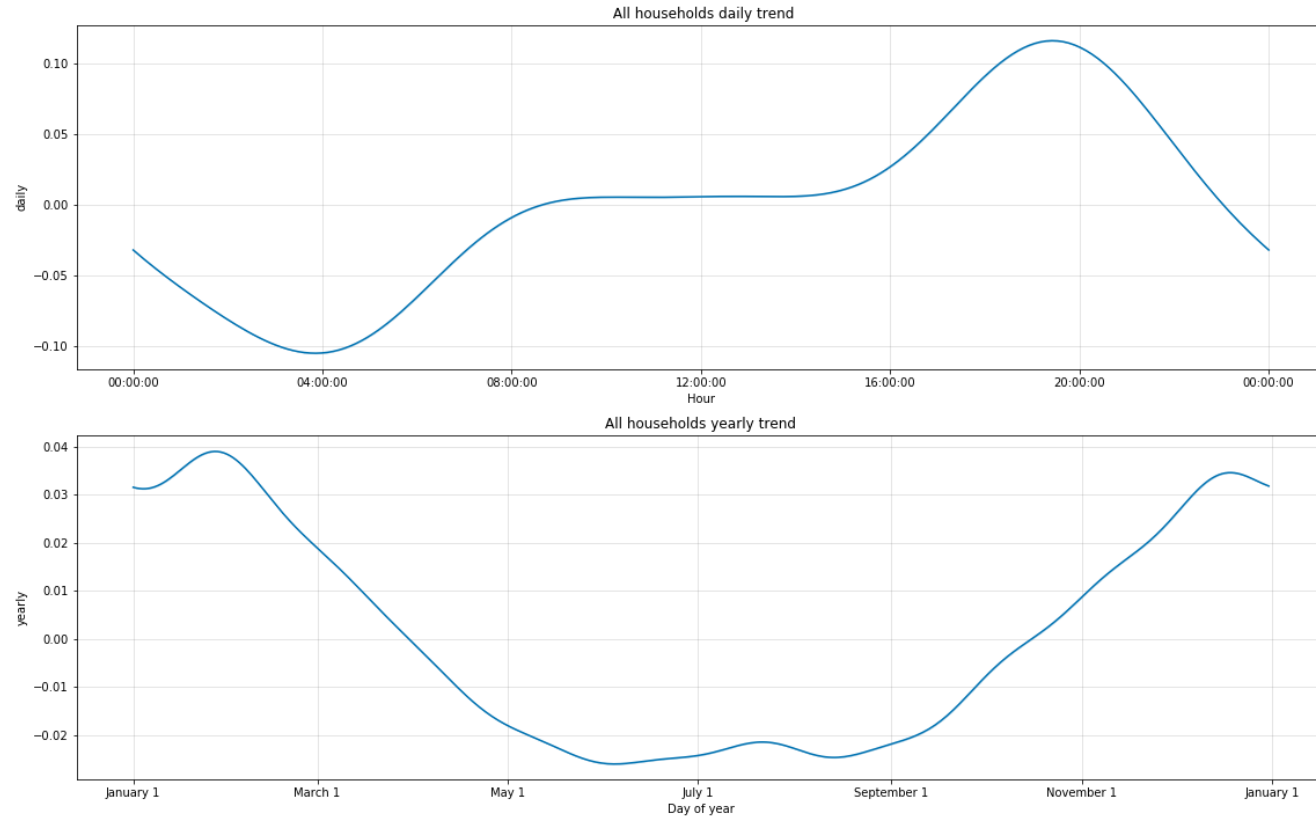
# Distribution Electricity Consumption



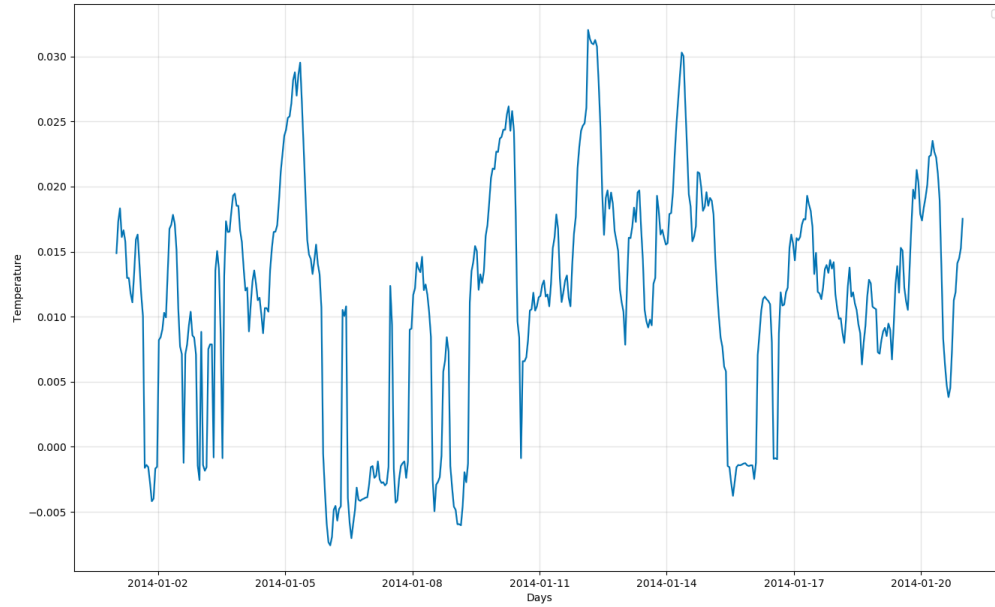
## Trend (10 days)



# Prediction Components

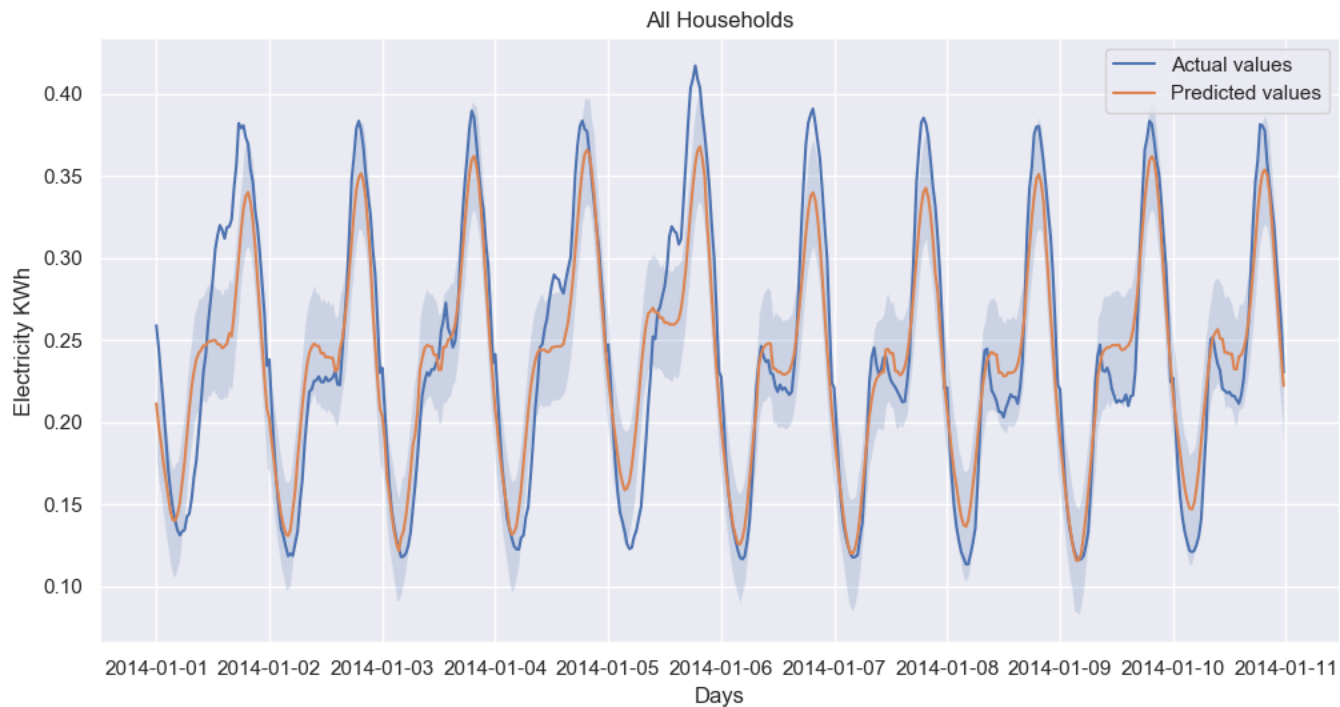


# Temperature Component



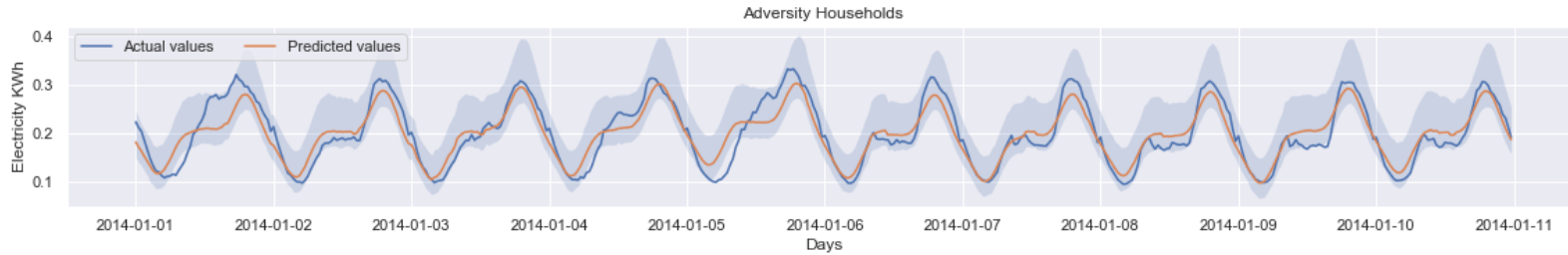


## Prediction (10 days)

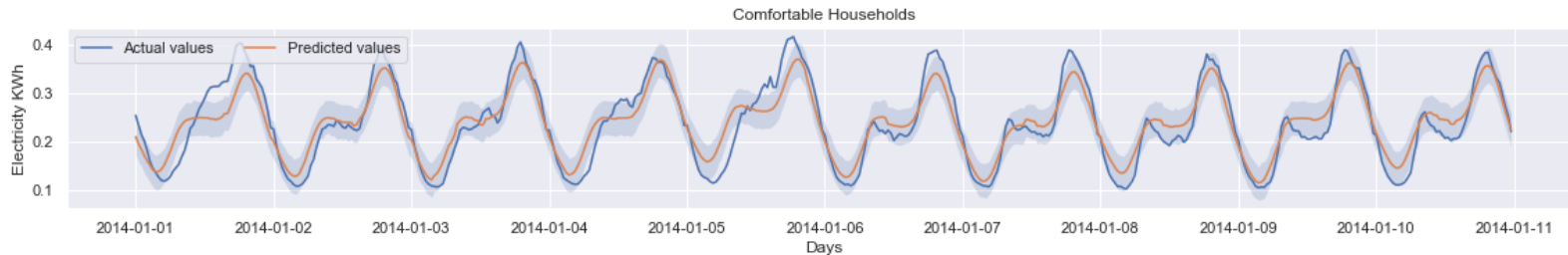


MAE % = 12,3%

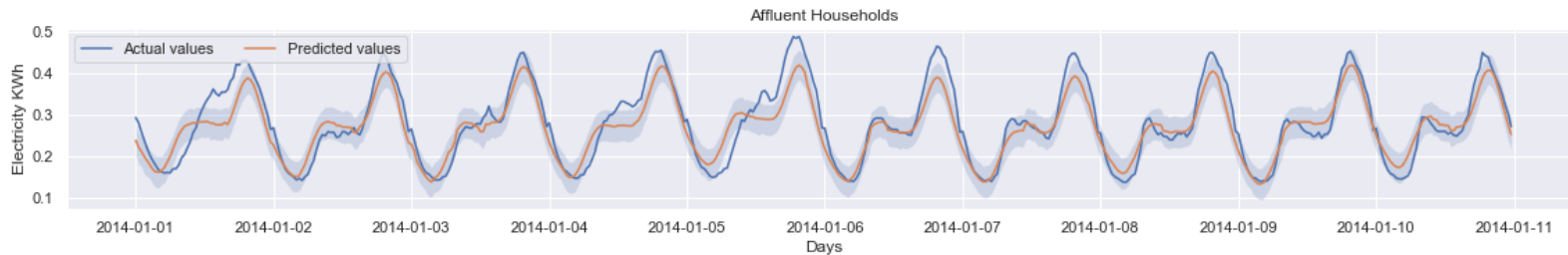
# Prediction (10 days)



MAE % = 10,9%



MAE % = 14,8%



MAE % = 13%

# Further Analysis

- Explore acorn groups
- Tariff data
- Better prediction



Thanks!

Questions?

