

Retail Store Operations Analytics

- with Weather, Store Traffic, and Twitter Datasets

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- The Context
 - Retail Store Operations Challenges
 - Retail Store Industry Trends
- Our Approach
 - Our findings – Weather correlations to product sales; Twitter mentions
- Key Game Changers
 - Weather data driven Trigger events
 - iBeacon / Beacon – highly localized / contextual alerts
 - Social media engagement around Weather events
- Our Weather data driven Retail Operations Analytics Model
- Data Scientist Workbench Notebook Walkthrough
- Q&A

Agenda



- Sudden Store traffic fluctuations caused by Weather
 - Multiple severe weather events = unrecoverable / missed revenue revenue targets
- Unable to meet the Demand caused by Weather events
 - Inventory / shelf space management
- Pressure to improve profitability in the hyper-competitive market
 - Ability to adjust pricing based on weather event triggered demand
- Optimize Staffing levels



Retail Store Manager Pain Points

- According to Industry research, Consumers who shop at both In-Store and Online spend 3.5X more than those who buy In-Store only
 - Weather events impact In-Store traffic; severe weather events are a big blow to Retail stores
 - Get those Consumers that shop during Weather events to grow revenue and grow the “3.5X Consumer” base



Retail Industry Trends

- Start with the Data
- Develop models
- Find correlations
- Define Weather driven trigger events
- Suggest Interventions based on Trigger events
 - iBeacon alerts
 - E-mail promotions
 - Price Actions
 - Inventory / shelf-space adjustments



Our approach

Product Sales Spike	Weather data Correlation
Beer	45 deg F < Temperature < 65 deg F
Bottled Water	Temperature < 75 deg F; 29.8 < Pressure < 30.2
Lawn & garden	60 deg F < Temperature < 75 deg F
Soup	30 deg F < Temperature < 45 deg F

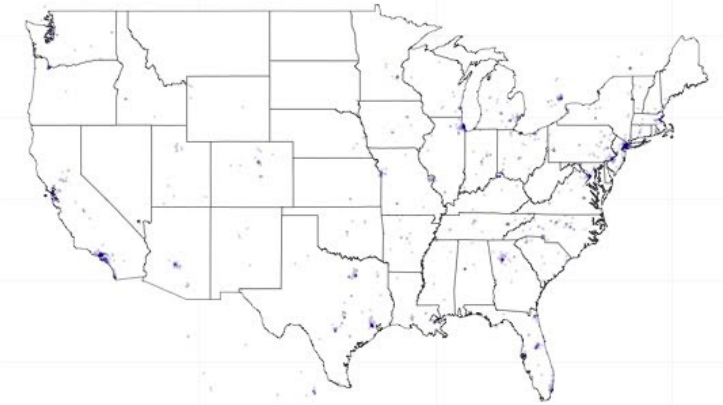


Weather data \leftrightarrow Product Sales Correlations

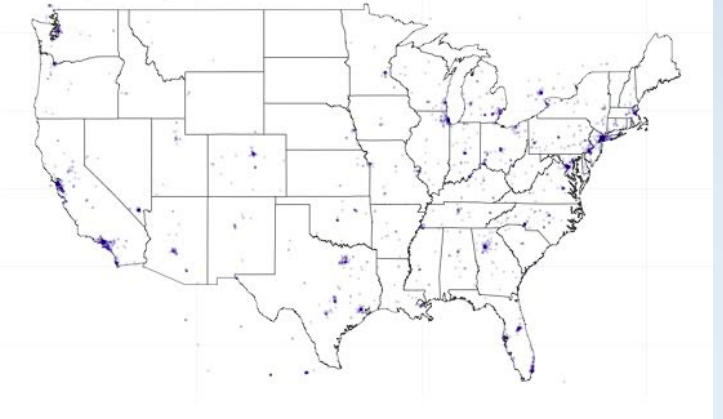
Coffee



Lawn Garden



Sun Screen



Live Twitter Stream Mentions





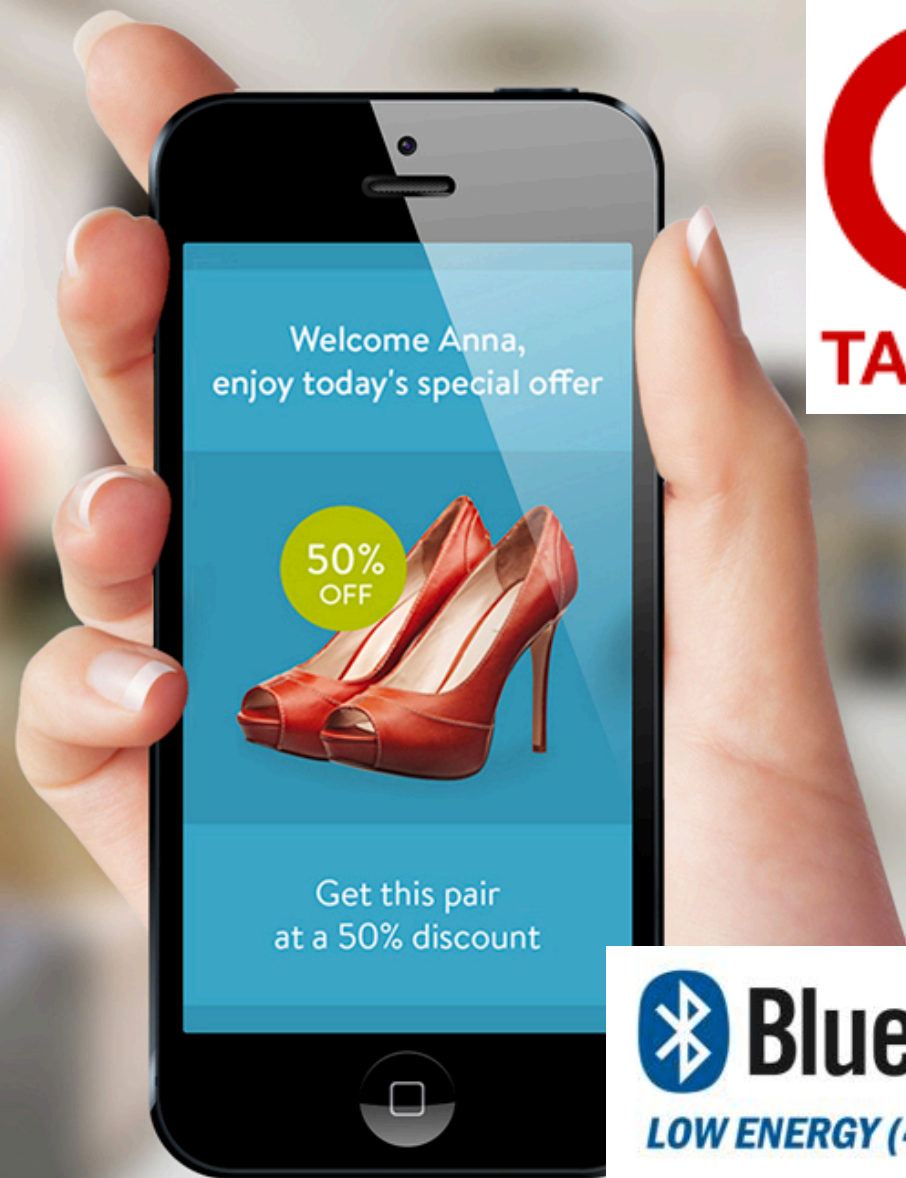
iBeacon



Walgreens

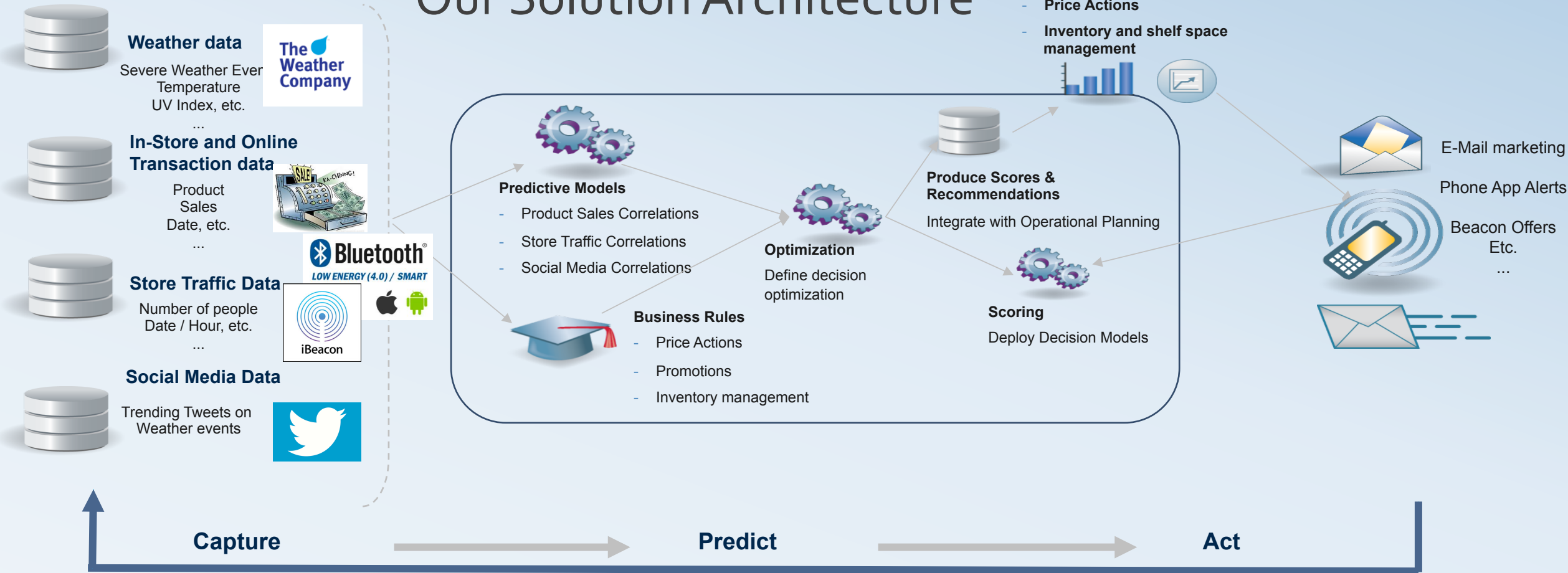


- **iBeacon** adoption rapidly growing:
37% Tier-1 expected in 2015
- 60% of Shoppers open and engage with iBeacon triggered content
- 30% people redeem beacon-triggered offer at POS



Real time data

Our Solution Architecture



Weather ↔ Product Sales ↔ Store Traffic ↔ Social



Data Scientist Workbench Notebook Walkthrough



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