

Demand Forecasting Solution

For Retail and CPG

Solution Overview

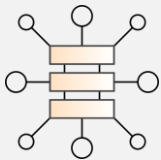
Tiger Analytics Demand Forecasting Solution helps teams solve large-scale time series forecasting requirements efficiently. It is an end-to-end solution built on AWS cloud infrastructure and can increase overall project efficiency by 30-50%



Features

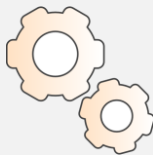
- Scalable architecture that can handle large scale time series analysis
- Modules to perform exploratory data analysis and model evaluation at scale
- AutoML module to explore a variety of algorithms and perform hyper-parameter to identify champion models
- GUI modules for easy consumption for business users

Overall Solution Overview



Data Ingestion & Setup

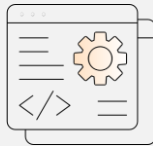
- Mapping source data to forecasting data model
- File system, S3, and cloud storage
- Support for CSV & parquet files
- Config. driven



Data Processing & EDA

- Uni & multivariate analysis
- Target drivers, temporal sensitivities
- Understand time series' sparsity, contribution & distribution.
- Priority tiering of time series.
- Preparation of analytical dataset

APIs and dashboards



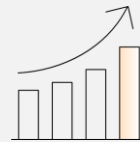
Feature Engineering

- Create domain feature set combinations
- Feature testing and business validation
- Missing value treatment
- Outlier treatment
- Temporal features



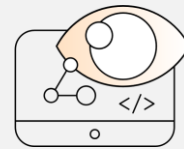
Model Development & Tuning

- Wide spectrum of ML algorithms
- PySpark and Python variants
- Experiment tracking through Sagemaker
- Robust back-testing framework and hyperparameter tuning
- Model evaluation - APIs and dashboards



Deployment & Scaling

- Data & feature pipeline creation
- Scoring and retraining pipelines
- Performance and data monitors



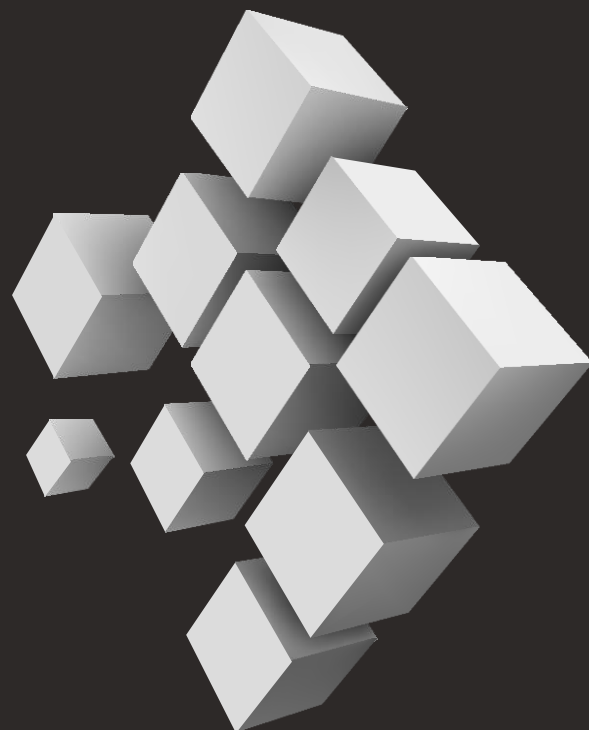
UI for Business Consumption

- Forecast overriding capabilities
- Visualization of forecast and demand drivers
- Scenario planner

Value Proposition

The CPG industry is facing a perfect storm driven by the rapid growth of digital business models, changing consumer preferences, new sources of competition, and supply chain uncertainties. This has manifested itself in the form of increased business volatility and operational complexities as companies struggle to address these forces.

Companies have responded to this situation by envisioning Smart factories supported by Intelligent supply chains and strong S&OP processes. There is a need to advance planning capabilities across these dimensions, and this will be driven by reliable demand forecasts that the Tiger Demand Forecasting Solution can provide



Success Stories



Cafe Sales Forecasting

Leading American Cafe/Bakery Chain

Value Delivered

- **\$5 M savings** each year from optimized labor and inventory planning
- Improved accuracy of sales forecasts by **over 3000 bps** improvement in Holidays



Quick Service Restaurant Chain

Dynamic Demand Forecasting for Inventory Management & Estimation of Labor Hours

Value Delivered

- **\$70 M** Cost saving annually
- **\$10 M** projected daily inventory holding cost reduction



Category Forecasting

Large Confectionery Company

Value Delivered

- Provided **monthly forecasts** for the next 5 years across **5 categories**
- **Identified factors** driving demand



D2C Sales Forecasting

Global Pet Food Manufacturer

Value Delivered

- Provided monthly **D2C sales forecast** for the next 10 months with **90%+ accuracy**
- Helped in scenario planning



Demand Forecasting

Large Apparel Retailer

Value Delivered

15% WAPE improvement and 4% Bias improvement over a 21-24 week forecast period



About Tiger Analytics

We offer full-stack AI and analytics services & solutions to help businesses achieve real outcomes and value at scale. We are on a mission to push the boundaries of what AI and analytics can do to help enterprises navigate uncertainty and move forward decisively. Our purpose is to provide certainty to shape a better tomorrow.