DATAPRED

物流和货物的机器学习

市场趋势的判断和管理战略的测试

是关键

• Unexpected changes in consumer behavior and logistics requirements are a major risk

用户行为和物流需求的意外改变是主要的风险

• Delivering value based on data analysis requires sophistication

有价值的可交付数据基于以专业知识为背景的数据分析

已存在的优化工具在内部和外部数据方面没有发挥良好的杠杆作用

• The raw (as opposed to pre-processed) data they use doesn’t capture your expertise

他们运用的原始数据(非预编译数据)不能体现专业知识的运用

• Their methodological assumptions are often simplistic

他们假定的方法论通常过于简单

• They don’t tell you which timeframes and variables really matter

他们无法告诉你哪个时间点哪个变量真正地重要

• Their overfitting tendency weakens their predictive power

他们过于迎合趋势弱化了其预测能力

很可能造成可怕的后果

• Unstable management rules based on unreliable forecasts

不可靠的管理规则基于不可靠的预测

• Bad assessment of demand and supply chain risk

需求的错误评估导致供应链的风险

• Suboptimal procurement and inventory management decisions

考虑欠佳的采购和库存管理决定

• Vicious circle of inadequate models and fallacious interpretations

错误理解的恶性循环

机器学习能提供高效的解决方案

• Automated model construction (no assumptions)

自动化模型框架（没有假定）

• Greater analytical and predictive power

更好的分析和预测能力

• Increased efficiency in big data conditions

大数据环境下效率的大幅提升

• Models that are more flexible and easier to interpret

交互模型更灵活和简单

实时的科学学习

• The features generated when representing time series are homogeneous, interpretable, robust and multi-scale

新功能在时序方面展示了其统一性，可交互性，健壮性以及各方面可扩展性

• Overfitting is controlled during the generation of models

过于迎合趋势在这一代模型上得以控制

• Data snooping is controlled during the backtesting of management rules

数据嗅探在回溯测试管理规则下得以控制

• The aggregation strategy formanagement rules is calibrated in real time

聚集策略管理规则被实时校准

Datapred解决方案

Datapred简介

• Datapred is a solution for clarifying and testing marketing and supply chain management ideas, and includes:

Datapred是用于解释和检验市场和供应链管理理念，包括：

- A flexible system for representing consumer and logistics time series

灵活的系统用于展示消费者和物流的时序

- A proprietary machine learning engine for generating models

专业设备采用学习引擎生成模型

- A system for quickly adapting to market shifts

该系统用于适应市场瞬息万变

• Datapred is not a management robot. It is there to augment your industry expertise, not to replace it

Datapred并非管理机器人，它只是用于增加企业的专业技能知识，并非取代管理者

10年学术和工作研究

Nicolas Mahler 创始人&CEO

Professional experience in market finance and business consulting

市场融资和商业咨询领域的专业经验

• Mahler Consulting - Data analysis and statistical modeling advisory

Mahler咨询顾问－数据分析统计建模咨询

• BNP Paribas - Quantitative Analyst

BNP Paribas - 定量分析

Development of trading strategies on futures market

基于未来市场的贸易发展策略

Education as a data scientist

教育领域的数据科学家

• Ecole Normale Supérieure de Cachan - PhD, Machine Learning for Finance

卡尚高等师范学院—博士，金融机器学习

• Université Paris VI - MSc, Applied Probabilities

巴黎四大—管理学硕士，应用概率

• Ecole des Mines de Paris - BSc, Engineering

巴黎矿业大学—科学学士，工程类

Datapred的主要优势

• Significant over-performance compared to existing solutions

与现有方案相比效率显著提升

• Resistance to sudden industry shifts

应对市场的瞬息万变

• Rigorous validation of your supply chain management strategies

苛刻的供应链管理策略验证

• Identification of alternative strategies

备选策略识别

准备迎接物联网时代

• The revolution is coming

改革在即

- 50 billion connected objects in 5 years1

5年内500亿相互关联的物品

• Examples in logistics and retail

物流与零售案例

- Geolocation of parcels and transport fleets

定位包裹和运输车队

- Beacons on warehouse and store shelves

仓库和货架的信号指示灯

• Datapred is optimized for the IoT

Datapred在物联网行业得以充分利用

- Scalable for millions of real time data

可扩展的数以百万的实时数据

- Native integration of heterogeneous data

本地集成各式各样的数据

经过挑选的物流用例

• Demand forecasting预约需求

- Volumes

量

- Price elasticities

弹性定价

• Inventory management库存管理

- Forecasts

预测

- Distribution

分布

• Transport planning运输规划

- Risk management

风险管理

- Route optimization

线路优化

• Predictive maintenance

预测维护

经过挑选的货物用例

• Demand analysis需求分析

- Demand forecasting

需求预测

- Prices elasticities

弹性定价

- Store location

存储位置

• Consumer behavior 消费者行为

- Segmentation

分类／划分

- Merchandising

推销

• CRM 客户关系管理系统

- Recommendations

推荐

- Promotions

晋升

- e-commerce

电子商务

案列学习

产品库存预测

• The client:

客户

- French pharmaceutical and personal care company

• The challenge:

挑战

- Predict monthly sales and inventory for a portfolio of 40 products

预测月销售和40个产品为一组的库存清单

• The process:

过程

- 2 weeks for formalizing the challenge and building the proof of concept

2周用于正式确定挑战和建立可靠的概念

- 2 months for creating the analytical models and testing them on historical and real-time data

2月用于建立分析模型和测试历史和事实数据

• The model:模型

- Predictive sales and inventory models for appropriate time windows

在恰当的时间预测销售和库存模型

- Optimal combination of the predictive models

预测模型的最佳组合

• The outcome:

输出

- A cloud-based framework for analyzing product inventory data and generating inventory management rules

基于云的框架用于分析产品库存数据并生成库存管理规则

- +30% on forecast accuracy compared to previous strategy

与之前策略相比提升30%的预测准确度

简单安全的架构

Secure data transfers

安全的数据传输

• Internal and external data (CSV) over secure connection

内部和外部数据的交互采用安全的连接方式

• No trade secrets disclosed

贸易信息保密

Daily deliverables

每日交付

• Daily reports (CSV, Excel or online) over secure connection

每日日报采用安全的连接方式

• Include predictions, interpretation and P&L features

包括预测，交互和P&L功能

Performance computing

高效运算

• Computation of data representation, prediction models and P&L optimized model combinations

数据运算，预测模型和P&L模型组合优化

• In the cloud or on client premises

在云端或在客户假定条件下

Datapred 项目实施步骤

Demonstration

演示

• Test of Datapred on data and inventory Management strategies chosen by the client

客户选择实验数据和库存管理的策略

• Generation of efficient models in that environment

改环境下的总体有效模型

> 2-3 meetings Free 2-3次免费会议

2. Proof of concept 构思证明

• Identification of efficient management rules based on the models

基于模型的高效管理规则识别

• Evaluation of their P&L potential

P&L评估

> 1 month Consulting fees 1个月，咨询费

3. Production

• Installation of the solution (e.g. data flows, hosting)

解决方案建立（例如：数据流，主机）

• Ongoing optimization of the models

优化模型

> Ongoing Subscription

优化费用

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