

ORMAE LLP CORPORATE DECK

AI & OPTIMIZATION COMPANY



In Mathematics

My promise to customer is ensuring the best-in-class optimization and data science solutions that can sustain business in long run and drive growth even in very constrained situations

Dr. Amit Garg

FOUNDER & CEO ORMAE



ORMAE

AGENDA

01 COMPANY PURPOSE

02 CUSTOMERS

03 INDUSTRY EXPERTISE

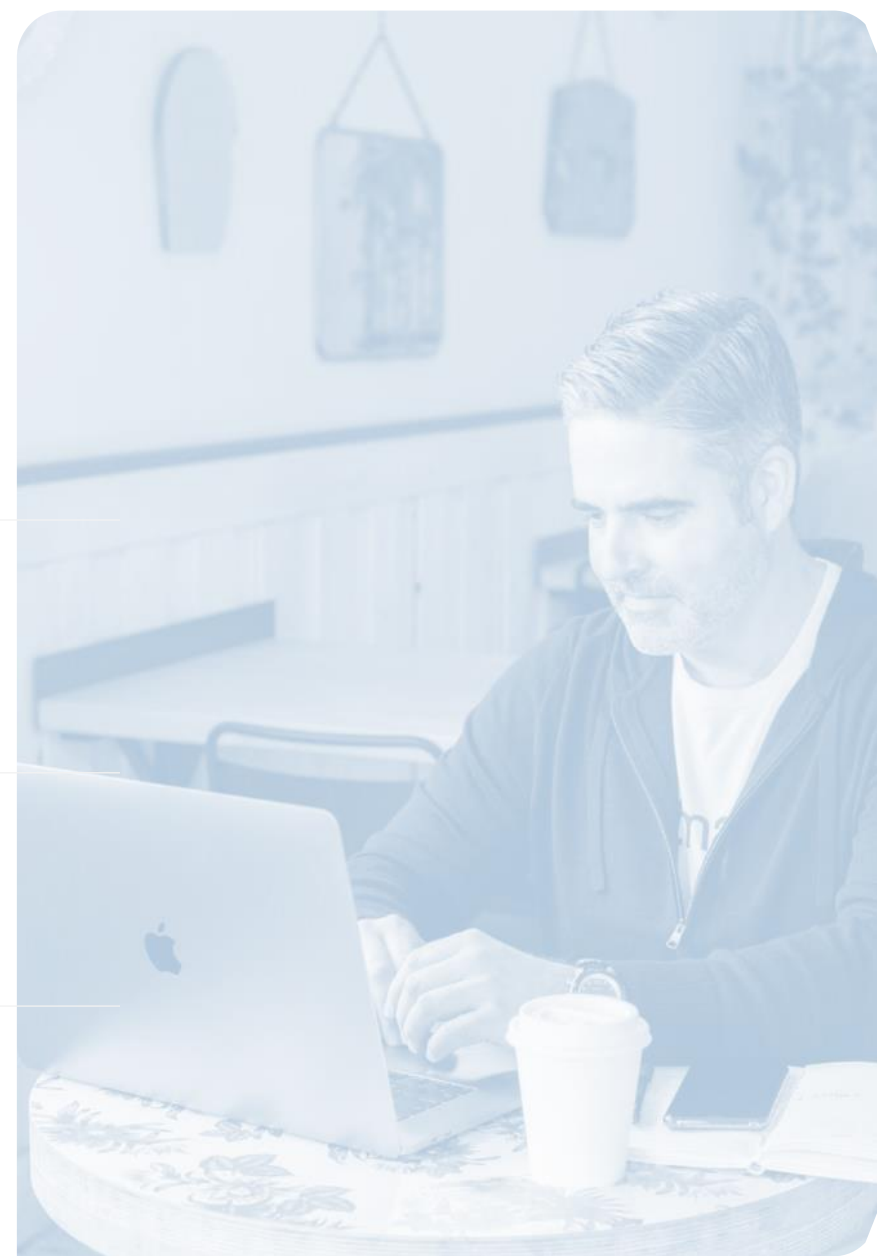
04 OFFERINGS

05 WHY US

06 ACCELERATORS

07 CUSTOMER USE CASES

08 DEMO USE CASES



COMPANY PURPOSE

My promise to customer is ensuring the best-in-class optimization and data science solutions that can sustain business in long run and drive growth even in very constrained situations. In addition to achieving the company vision - "Help business in digital transformation through expert Optimization and Data Science Solutions", ORMAE is committed to growing the business where people enjoy coming to work and are intellectually challenged with innovative ideas.



FOUNDER & CEO
Dr. Amit Garg



MISSION

To deliver 'Top-notch optimization & Data Science solutions' using cutting edge technology that results in sustained profitability for our customers.



VISION

A focused Operations research & Data Science company driving excellence in Optimization to solve complex business problems across the globe

COMPANY PROFILE

\$300 M+

Delivered
Value

45+

Global
Customers

10+

Fortune 500
Company

100+

Project Delivered
(50%+ using **GUROBI**)

TESTIMONIALS



Birendra Kumar

Head -Sales & Operations Planning

I highly appreciate professionalism and technical acumen of the team and looking forward to connect and work in future as well.

I also recommend ORMAE highly to other Firm / Businesses for the **optimization solutions for their Supply Chain & Operations** challenges at hand.



Doug Newhard

Executive Director at Hartman,
Former Director of Interactive Intelligence

Amit is extremely talented Mathematician who not only understands the technical portions of his solution, but also takes time to **understand the business process** he is modelling to ensure his solution matches the real world.



**Operations Research and
Supply Chain Optimization**



**Data Engineering,
Data Visualization
and Data Science**



**Custom Application
Development and
Software Engineering**

OFFERINGS



**OPERATION RESEARCH
& SUPPLY CHAIN
OPTIMIZATION**



**DATA ENGINEERING,
DATA VISUALIZATION
& DATA SCIENCE**



**CUSTOM PRODUCT
DEVELOPMENT**



CONSULTING

- Discovery & Process Analysis
- Use Case Definition and Capture
- Data Strategy Roadmap for Analytics
- Process Mapping
- Process and Data Evaluation
- Solutions Selection & Roadmap

IMPLEMENTATION SERVICES

- Operations Research Services
- Data Engineering & Science Services
- Training on Operations Research and Data Science
- GUROBI & CPLEX Implementation
- Testing Rollout Support
- Training on Data Science

ACCELERATORS & CUSTOMIZATION

- Product Support Services
- Process Review & Mapping
- Accelerators Development
- Product Upgradation



PARTNERSHIP / EXPERTISE

Delivering platform-agnostic solutions with certified consultants, specializing in operation reseach and advanced data science products

PARTNERSHIP



01



ORMAE TEAM
DEFINE SCOPE

03



DEVELOP &
DEPLOY

05



CLIENT BUSINESS
PROBLEM

02



IDENTIFY
METRICS &
FRAMEWORK

04



COLLABORATE *
PARTNER

WHY US



CONSULTING TO
DELIVERY

End to end custom optimization and data science solution using latest technologies suited for clients



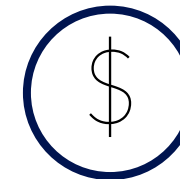
TOP TALENT

Right mix of domain experts, scientists, and software developers



PLATFORM
AGNOSTIC

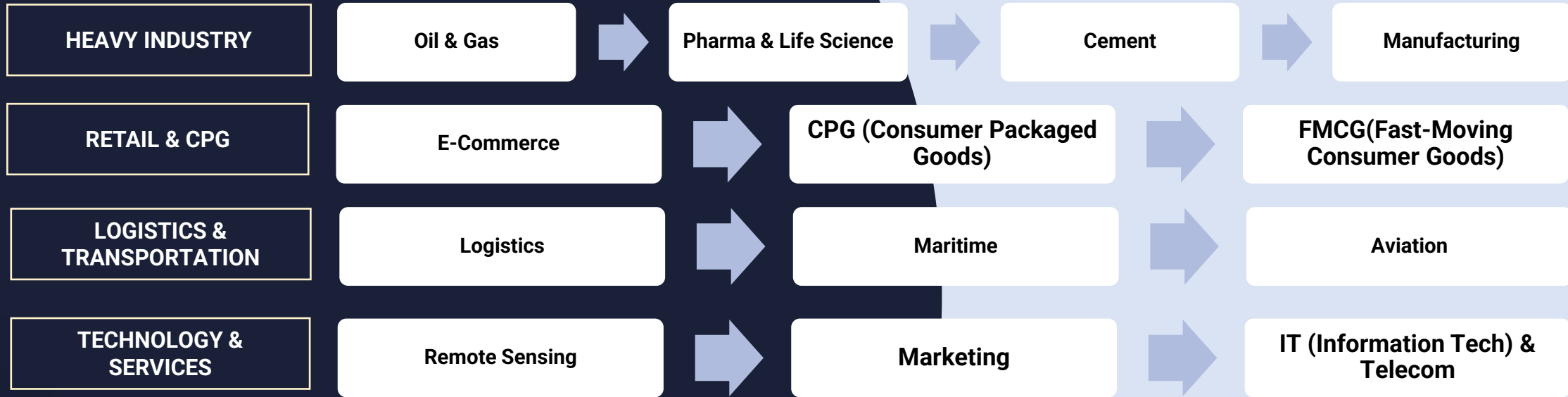
Certified consultants providing platform-agnostic solutions on operation research and data solutions



VALUE OVER
COST

A+ quality deliverable at a competitive price

INDUSTRY EXPERTISE & DELIVERY CENTERS



CUSTOMER ACROSS ...



**DECISION INTELLIGENCE
& OPTIMIZATION**



**USE
CASES**

DECISION INTELLIGENCE & OPTIMIZATION USE CASES



EUROPEAN LIFE SCIENCES
CLIENT FORTUNE 500

SUPPLY CHAIN OPTIMIZATION

Developed platform ensured network optimization, inventory forecasting & optimization, resulting in substantial cost savings.



E-COMMERCE GIANT

LAST MILE DELIVERY

Initiated and developed route optimization solution that saved \$4 million by optimizing food delivery agent allocation and routes.



MANUFACTURING GIANT

PRODUCTION OPTIMIZATION

Developed solution resulted in a \$6 million savings by optimizing production planning, inventory, and transportation costs.

MANUFACTURING GIANT



WAREHOUSE PICKING OPTIMIZATION

Developed solution that identified the fastest warehouse route, resulting in increased order fulfillment and faster picking times.

SHIPPING GIANT



TRANSPORT OPTIMIZATION

Engineered product achieved a 5% reduction in operational costs by optimizing vessel routes, thereby minimizing the probability of stock-outs.

PHARMA GIANT



INVENTORY & LOGISTIC PLANNING

Developed product that conducted inventory and logistics planning for a medical supplies client, resulting in enhanced visibility.



FOOD DELIVERY OPTIMIZATION

FOOD E-COMMERCE COMPANY



FOOD E-COMMERCE GIANT FROM INDIA

Challenge :

The company was processing 1.5 million orders daily, due to this it posed a substantial logistical challenge, impacting order dispatching, delivery scheduling, and overall customer operations nationwide

SOLUTION APPROACH



- Leveraged a MIP model with additional algorithmic components to optimize batch assignments to delivery partners.
- Implemented a VRP model using Google OR tools to enhance delivery efficiency.
- Utilized clustering (ML) and routing (OR) techniques to streamline recommendations and optimize delivery routes.

IMPLEMENTATION



- Successfully implemented the OR models, integrating it seamlessly into client order planning and dispatch solutions.
- Live deployment, ensuring efficient assignment of batches to delivery partners based on capacity and proximity.

CUSTOMER BENEFITS



- Increased delivery executive efficiency by 3%-5%, resulting in over 4 million USD in annual cost savings.
- Optimized batch assignments for groceries and FMCG items, improving accuracy and timeliness.
- Streamlined operations with optimized order combinations and routing overlays based on historical data.

VESSEL ROUTING & SCHEDULING MARITIME COMPANY



MARITIME COMPANY APAC REGION

Challenge :

Designing routes for a fleet of vessels stationed at a central depot to fulfill transportation requests while maximizing capacity utilization, minimizing wait times, and preventing/minimizing stock-outs

SOLUTION APPROACH



- Applied MIP optimization techniques to address berth utilization, traffic management, time window constraints, and stochastic demand.
- Implemented cost reduction strategies savings and developed optimized routes tailored to specific periods constraints.

IMPLEMENTATION



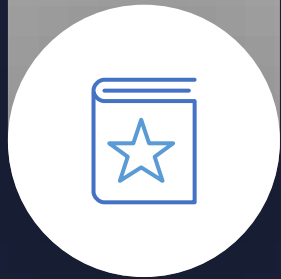
- Collaborated with stakeholders to gather data and deployed iterative MIP models.
- Integrated optimized routes into the fleet management system and conducted staff training.

CUSTOMER BENEFITS



- Achieved 3-5% operational cost reduction and minimized wait times.
- Maximized cargo discharge, preventing stock-outs and mitigating congestion at ports.

TRADE PROMOTION & OPTIMIZATION RETAIL COMPANY



RETAIL COMPANY for
US & UK LOCATION

Challenge :

Client required a scheduling solution to optimize promotions for products over specific time periods, considering varying impacts on KPIs like Gross Margin, Net Revenue, and Market Share, aiming to maximize the potential lift of desired KPIs for the planning period

SOLUTION APPROACH



- Utilized Mixed Integer Programming (MIP) approach to provide optimal results.
- Employed commercial solvers to solve the model to optimality.
- Leveraged sales forecasting to generate potential lift values and account for post-event dip and cannibalization factors.

IMPLEMENTATION



- Developed a comprehensive solution incorporating retailer and manufacturer rules and policies for promotions.
- Addressed constraints such as the number of promotion weeks, consecutive promotions, and post-promotion dip effects to optimize promotional calendars.
- Handled non-linear KPIs like Gross Margin as a percentage of Net Revenue.

CUSTOMER BENEFITS



- Achieved a 2-5% increase in yearly profit for the client through optimized promotional calendars.
- Realized significant increases, such as USD 15 million for linear KPIs like Gross Sales.
- Successfully addressed complicated business issues like cannibalization and post-promotion dip effects, enhancing overall promotional effectiveness and ROI.

DISTRIBUTION REPORTS

DIAGNOSTICS LABS COMPANY- DISTRIBUTION



DIAGNOSTIC LABS COMPANY for SAUDI ARABIA

Challenge :

Client faced challenges due to the lack of visibility into key performance indicators (KPIs) and COVID statistics across different regions. Additionally, logistical bottlenecks and resource constraints hindered operational efficiency and decision-making processes.

SOLUTION APPROACH



- Developed visualizations for lab KPIs, COVID statistics, and logistics.
- Implemented anomaly detection for travel time and resource productivity.
- Developed visualization to have appropriate data and user control

IMPLEMENTATION



- Phased approach with data analysis, visualization development, and training.
- Tailored solutions for each lab's specific needs.
- Implemented data model for the required reports
- Implemented reports for the relevant requirements

CUSTOMER BENEFITS



- Enhanced decision-making with improved visibility.
- Proactive problem-solving reduced bottlenecks.
- Live tracking and financial modeling improved operational outcomes.
- Increased efficiency, cost savings, and customer satisfaction.

WAREHOUSE OPTIMIZATION

X COMPANY- WAREHOUSE



X COMPANY for
US & UAE

Challenge :

Client faced challenges to optimizing warehouse navigation to expedite product picking while minimizing unnecessary movement, ensuring quick, accurate, and efficient order fulfillment using wave and zone picking methods..

SOLUTION APPROACH



- Implemented a mathematical modeling approach, specifically Mixed Integer Programming).
- Developed a systematic optimization framework considering factors like order characteristics, batch capacities, proximity-based picking, and congestion avoidance.
- Designed an algorithm to determine the fastest and most efficient routes for warehouse navigation, streamlining the picking process.

IMPLEMENTATION



- Phased implementation starting with data gathering and analysis.
- Developed and tailored the MIP model to the unique warehouse characteristics.
- Integrated the solution into the warehouse management system and provided training for staff adoption.

CUSTOMER BENEFITS



- Faster order picking within specified timeframes, enhancing operational efficiency.
- Increased number of orders fulfilled due to optimized warehouse navigation.
- Improved inventory management and space utilization.
- Reduction in unnecessary movement for pickers, decreasing labor costs and fatigue.
- Uniform load assignment to pickers, maximizing productivity.

WORKFORCE OPTIMIZATION

SERVICE COMPANY- TELECOM SERVICE CENTER



SERVICE COMPANY for USA

Challenge :

Client faced challenges to ensure its voice service Center needed to optimize staffing levels while considering various factors such as language proficiency and department roles, without relying on traditional data science methods.

SOLUTION APPROACH



- Employed Operations Research (OR) models to develop a staffing optimization framework.
- Designed compensation structures based on languages spoken and department roles using mathematical modeling techniques.
- Utilized OR techniques to determine the optimal number of employees with the right skill sets to meet service demands.

IMPLEMENTATION



- Developed OR models to analyze staffing requirements and skill set distribution.
- Implemented the staffing optimization framework, incorporating language proficiency and departmental expertise criteria.
- Integrated the OR-based staffing model into the existing HR system and provided training to HR staff for effective implementation.

CUSTOMER BENEFITS



- Optimized staffing levels without relying on traditional data science methods.
- Achieved cost savings by efficiently allocating resources based on model recommendations.
- Enhanced customer service by ensuring adequate staffing with the right skill sets.
- Improved employee satisfaction and retention through fair and transparent compensation structures.

CLOUD DATA ANALYTICS & AI



USE CASES

CLOUD DATA ANALYTICS & AI USE CASES



AUSTRALIAN E-COMMERCE GIANT

DEMAND FORECASTING

Implemented demand forecasting solution with approximately 85% accuracy across SKUs, significantly enhancing inventory planning



MANUFACTURING GIANT

SPARE PART FORECASTING

Implemented solution achieved a forecasting accuracy of over 90% for 65% of parts and ensure smooth preventive maintenance



METAL MINING GIANT

QUALITY PREDICTION

Developed a prediction model to forecast the quality of aluminum.

MANUFACTURING GIANT



CHATBOT LLM INTEGRATION

Integrated chatbot with LLM algorithms for streamlined SQL queries, data retrieval, and export from the internal database

BREWERY GIANT



RECOMMENDER SYSTEMS

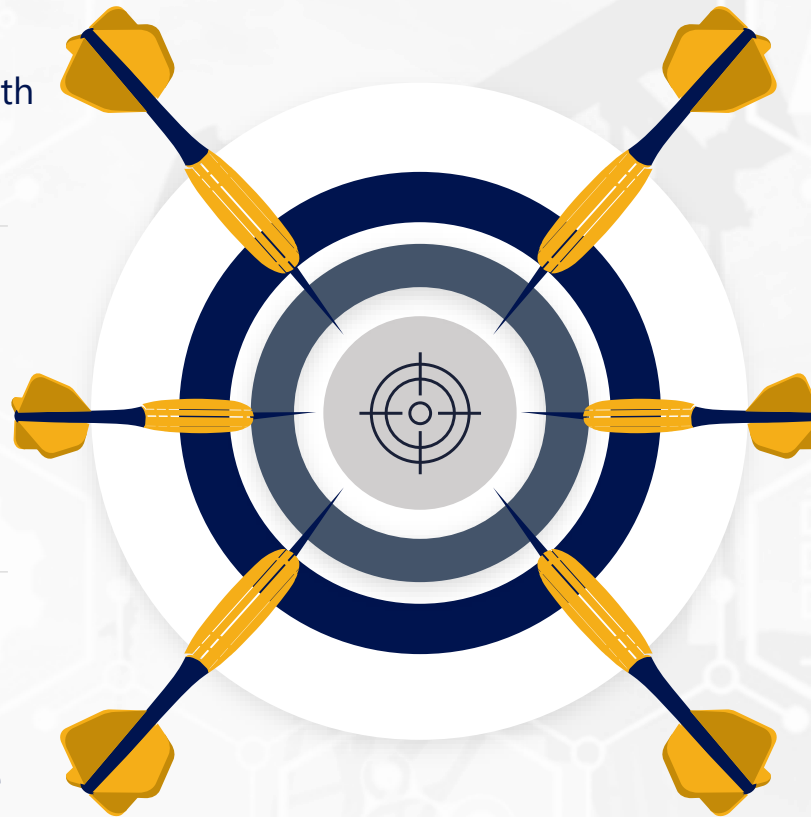
Developed a recommender system to effectively upsell brewery SKUs.

PETROCHEMICAL GIANT



ANOMALY DETECTION

Developed machine learning-assisted prediction models to prevent unplanned maintenance in petroleum refineries.



DEMAND FORECASTING

RETAIL GIANT- SALES & INVENTORY FORECASTING



RETAIL COMPANY for AUSTRALIA

Challenge :

Client faced challenge to accurately forecast the consumption of SKUs across multiple stores, involving a large number of products and stores.

SOLUTION APPROACH



- Utilized a combination of forecasting methodologies tailored the inventory.
- Implemented a Univariate Time Series Forecasting Module for products with more than 1 year of historical sales data.
- Developed a Forecasting application using ensemble Machine Learning models for forecasting sales of new products with limited historical data.

IMPLEMENTATION



- Designed and deployed a Demand Forecasting application capable of handling forecasts for 10,000+ products across 200+ stores.
- Integrated the forecasting models into the application and provided user-friendly interfaces for planners to input timeframes and generate weekly sales & inventory predictions.

CUSTOMER BENEFITS



- Successfully deployed application achieved approximately 85% accuracy in sales forecasting.
- Improved inventory management by providing more accurate forecasts, reducing stockouts and excess inventory.

SPARE PART FORECASTING

MANUFACTURING – PREVENTIVE MAINTENANCE



MANUFACTURER COMPANY for INDIA

Challenge :

Client faced challenge to accurately forecast the consumption of spare parts across various storage locations, items, and timeframes, taking into account intermittent and smooth consumption patterns.

SOLUTION APPROACH



- Univariate Time Series Forecasting models tailored to each part at Storage Location - Item - Monthly and Storage Location - Item - Lead time levels.
- Implemented multiple machine learning models to handle intermittent and smooth consumption patterns effectively.

IMPLEMENTATION



- Developed and deployed the forecasting models, ensuring smooth functionality and scalability for handling large datasets.
- Integrated customized performance metrics suited for business needs to evaluate forecast accuracy.

CUSTOMER BENEFITS



- Achieved over 90% accuracy for forecasting 65% of the spare parts, leading to improved inventory management and replenishment strategies.
- Enhanced decision-making processes by providing accurate and timely forecasts, reducing stockouts and excess inventory.
- Improved operational efficiency and cost savings by optimizing inventory levels

ANOMALY DETECTION

PETROCHEMICAL MINING – EQUIPMENT FAILURE PREDICTION



PETROCHEMICAL COMPANY for MIDDLE EAST

Challenge :

Client faced challenge to build an AI Advisory Decision Support System utilizing Machine Learning Models to provide early predictions and prevent failures, minimizing unplanned maintenance and plant shutdowns

SOLUTION APPROACH



- Grouped equipment using clustering techniques and models tailored to these clusters.
- Implemented statistical models like Moving Average and FFT analysis to detect anomalous behavior in vibration signals.
- Developed Machine Learning models such as Gaussian Mixture Model and Auto Encoder to predict failures based on historical events.

IMPLEMENTATION



- Developed cluster-specific models and deployed them in the client's environment.
- Built an automated training pipeline to retrain models at specific intervals and continuously monitor prediction accuracy.
- Deployed a testing pipeline with alerts to notify engineers of predicted failures, enabling proactive maintenance to prevent plant shutdowns.

CUSTOMER BENEFITS



- Improved predictive capabilities with early detection of potential failures, reducing unplanned maintenance and plant shutdowns.
- Implemented solution had a recall of 99%
- Implemented solution would alert about a failure about 6hours to 3 days in advance.

PRICING ANALYTICS

AUTOMOBILE SALES COMPANY – PRICE PREDICTION



AUTOMOBILE SALES for USA

Challenge :

Client faced challenge to automate the prediction of used car sale prices and improve absolute margins by recommending offer prices

SOLUTION APPROACH



- Employed grid search and K-fold cross-validation for model selection and hyperparameter tuning.
- Developed algorithm to automate business heuristics for pricing recommendations.
- Utilized factors such as car make, model, and historical repairs to determine offer and sale prices accurately.

IMPLEMENTATION



- Implemented the prediction model and pricing algorithm in the existing sales platform.
- Integrated the solution with the sales workflow to automate pricing recommendations.

CUSTOMER BENEFITS



- Improved accuracy in predicting selling prices with 95%-98% accuracy, reducing pricing errors and increasing profitability.
- Automated business heuristics streamlined the pricing process, saving time and resources.
- Enhanced customer satisfaction with more competitive pricing and transparent pricing practices.

AI-POWERED CHATBOT

AUTOMOBILE SALES COMPANY – LLM-BASED CHATBOT



AUTOMOBILE SALES for USA

Challenge :

Client faced challenge to streamline information access for dealers and clients. The challenge was to develop a Q&A chatbot capable of retrieving relevant information from web sources, PDF documents, databases, and APIs efficiently.

SOLUTION APPROACH



- Utilized cutting-edge technologies such as Langchain Pinecone, Vector DB, and ChatGPT API to construct the chatbot.
- Developed an Open API request framework to integrate and access diverse data sources.
- Implemented natural language processing capabilities to enable the chatbot to understand and respond to queries effectively

IMPLEMENTATION



- Built and deployed the Q&A chatbot, leveraging the selected technologies and methodologies.
- Integrated the chatbot into the company's web platform and dealer portals for easy access.
- Conducted thorough testing and refinement to ensure the chatbot's accuracy and reliability in retrieving information

CUSTOMER BENEFITS



- Improved accessibility: Dealers and clients can easily retrieve information without the need to search through lengthy documents or databases.
- The chatbot streamlines the process of accessing information, saving time and effort for users.
- Providing quick and accurate responses to inquiries improves satisfaction and loyalty among dealers and clients.

RECOMMENDATION ENGINE

BREWING COMPANY – RECOMMENDATION ENGINE



BREWING COMPANY for EUROPE & SOUTH AMERICA

Challenge :

Client sought to optimize its upselling strategies by recommending beverages to customers. The challenge lay in developing advanced recommendation systems capable of analyzing extensive sales, customer, and product data to provide personalized suggestions.

SOLUTION APPROACH



- Leveraging collaborative filtering and hybrid recommender systems
- LightFM, Random Forest, SAR, ALS, SVD, and Wide & Deep models ensembled and analyzed millions of users and hundreds of beverage items to generate accurate recommendations.
- Grid search and testing module were developed to fine-tune and validate the performance of the recommender models, ensuring optimal results.

IMPLEMENTATION



- The recommendation system was successfully deployed, integrating seamlessly into the company's existing infrastructure.
- Extensive testing and validation were conducted to ensure the accuracy and reliability of the recommendation algorithms.

CUSTOMER BENEFITS



- Successful implementation in multiple countries demonstrated the scalability and adaptability of the solution.
- Enhanced upselling strategies resulted in increased beverage sales and revenue for the company.
- Personalized beverage recommendations improved customer satisfaction and loyalty.



PETROCHEMICAL COMPANY for MIDDLE EAST

Challenge :

Client faced challenge to build machine learning model that can be used in predicting temperature and moisture content at various depths and locations along gas pipelines. The prediction would be used to prevent corrosion and maintain pipeline integrity

SOLUTION APPROACH



- Developed regression models to forecast gas pipeline temperature and moisture content.
- Incorporated machine learning pipeline to integrate temperature and moisture predictions for corrosion assessment.

IMPLEMENTATION



- Developed ML model pipeline and deployed them in the client's environment.
- Trained Linear regression model for temperature prediction, utilizing regression diagnostics for validation.
- Build Random Forest Regression model to forecast moisture content along the pipeline.

CUSTOMER BENEFITS



- Accurate predictions aid in proactive corrosion prevention.
- Early detection of potential corrosion helps mitigate risks of pipeline failure.
- Preventive maintenance reduces repair costs and downtime associated with pipeline corrosion.



PETROCHEMICAL COMPANY for MIDDLE EAST

Challenge :

Client faced challenge to build an AI Advisory Decision Support System utilizing Machine Learning Models to provide early predictions and prevent failures, minimizing unplanned maintenance and plant shutdowns

SOLUTION APPROACH



- Grouped equipment using clustering techniques and models tailored to these clusters.
- Implemented statistical models like Moving Average and FFT analysis to detect anomalous behavior in vibration signals.
- Developed Machine Learning models such as Gaussian Mixture Model and Auto Encoder to predict failures based on historical events.

IMPLEMENTATION



- Developed cluster-specific models and deployed them in the client's environment.
- Built an automated training pipeline to retrain models at specific intervals and continuously monitor prediction accuracy.
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CUSTOMER BENEFITS



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OUR ACCELERATORS

Our accelerators bring quick solutions to industries, leveraging optimization and data science, and are built for the most common cases we come across.



ROUTECAP

LAST MILE DELIVERY TOOL

SUMMARY

Our accelerator uses advanced route optimization algorithms to optimum route planning and last mile delivery. It has the capacity to plan under the constrains of vehicle capacity, delivery time windows and provides performance analytics of the vehicles and the last mile resources. It has a driver's app for delivery tracking

EXPECTED BENEFITS

- **Faster Delivery Times:** Optimal routes ensures reduce travel time.
- **Reduced Costs:** Efficient routing reduces miles & lowers operational expenses.
- **Reduced Anomalies:** Efficient routing plan reduces anomalies and exceptions timelines.



SOURCES

Data Dumps(CSV/XLS)
User Interface



SOLUTION

- Optimization models considers factors like vehicle capacity, delivery windows and distance and provides an optimal route for the last mile.
- Along with the driver's app and the optimization tool the deliveries, can be planned, analyzed and coordinated.



DEVELOPMENT STEPS

- Initiate data collection and analysis.
- Formulate mathematical models for optimization.
- Implement identified route for the given set of orders
- Monitor performance using maps and dashboards

PICKOPT PICKING OPTIMIZATION - Optimizing Warehouse Routes for Swift Fulfillment

SUMMARY

Our accelerator, achieve advanced route optimization and real-time data analysis, significantly reduced order fulfillment times. By streamlining warehouse routes, customer achieves enhanced operational efficiency, expedited picking, and lowered costs, demonstrating the impactful success of our solution in improving the entire fulfillment process.

EXPECTED BENEFITS

- **Faster Picking Times:** Optimal picking routes reduce travel time.
- **Reduced Costs:** Efficient picking lowers operational expenses.
- **Improved Accuracy:** Technology integration ensures precise order fulfillment.



SOURCES

ERP, Data Dumps(CSV/XLS), Data Warehouses
WMS (Optional), Others



SOLUTION

- Optimization models considering factors like picking paths, travel distances, and order priorities to find the most efficient picking routes.
- **Dynamic Slotting:** Implement dynamic slotting to adjust pick locations based on demand fluctuations.



DEVELOPMENT STEPS

- Initiate data collection and analysis.
- Formulate mathematical models for optimization.
- Implement prioritized picking strategies.
- Monitor key performance indicators for continuous improvement.

INFOBOT LLM-ENABLED CHATBOT ENGINE

SUMMARY

Our accelerator is a packaged code designed to function as a chatbot. It efficiently scans and retrieves relevant information from web sources, PDF documents, databases, and APIs. With learning capabilities and post-prompt configuration, its purpose is to serve as an ideal chatbot for enterprise-wide information retrieval, building, sharing, and other related tasks.

EXPECTED BENEFITS

- Improved accessibility as users can easily retrieve information without the need to search through documents or databases.
- Streamlines the process of accessing information, saving time and effort



SOURCES

SharePoint, File Repository
Data Lakes, Databases



SOLUTION

- Utilized cutting-edge technologies such as Llama, Pinecone, Vector DB and other open-source LLM to construct the chatbot.
- Implemented natural language processing capabilities to enable the chatbot to understand and respond to queries effectively



DEVELOPMENT STEPS

- Initiate data ingestion and analysis (preprocessing)
- Store the data for text analytics and encoded data in vector database
- Use the vectors to generate response using LLM models
- Leverage feedback to retrain and enhance

FORECASTING TOOL

ENSEMBLE FORECASTING APP

SUMMARY

Our accelerator is a packaged code, designed to streamline demand forecasting processes. It offers diverse model options, automated best model selection, customizable error metrics, adaptability to various demand patterns, and seamless integration of new products. This accelerator guarantees accuracy and efficiency in forecasting, while intuitive dashboards provide insightful performance tracking.

EXPECTED BENEFITS

- Enhanced Forecasting Accuracy
- Operational Efficiency and Cost Reduction
- Quick Deployment and Easy Monitoring



SOURCES

ERP, CRM, Data Dumps(CSV/XLS), Data Warehouses
WMS (Optional), Others



SOLUTION

- Automated Model Selection using custom metrics
- Different approach for different demand patterns – Smooth, Lumpy, Intermittent and Lumpy
- Packaged Code and user-friendly dashboards



DEVELOPMENT STEPS

- Initiate data ingestion and analysis.
- Create demand segments based on patterns
- Streamline the code for easy deployment across diverse environments.
- Monitor key performance indicators for continuous improvement.

SUMMARY

Our accelerator facilitates advanced inventory planning by minimizing stock and enhancing sourcing timelines through demand forecasting, operational constraint analysis, and optimization modeling for reorder points and levels. The model is adaptable across various levels, including material groups, SKUs, warehouses, plants, and more, allowing for effective grouping and optimization of new materials.

EXPECTED BENEFITS

- **Improved Inventory Forecast:** Ensemble forecasting ensures precise projections.
- **Optimized Inventory Management:** Efficient and responsive inventory management system.



SOURCES

ERP, CRM, Data Dumps(CSV/XLS), Data Warehouses
WMS (Optional), Others



SOLUTION

Ensemble forecasting for accurate inventory projections.
Operations Research models to streamline inventory operational aspects
Streamline demand forecasting and OR modeling for optimized inventory management.



DEVELOPMENT STEPS

- Initiate data collection and analysis.
- Formulate ensemble and mathematical models for optimization.
- Implement prioritized inventory sourcing strategies.
- Monitor key performance indicators for continuous improvement.



Thank You

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