H₂O.ai

Make Your Own AI for Manufacturing

Executive Summary

The manufacturing industry is adopting artificial intelligent (AI) at a fast rate. This century-old industry is complex but has seen constant transformation across all of its facets such as improving manufacturing efficiency, supply chain optimization, reducing downtime, improving product design, and transportation of finished goods. Led by big data analytics, miniaturization of sensors enabling the Internet of Things (IoT), and, now, AI machine learning (ML) , manufacturers everywhere have embarked on an AI transformation that is opening up potential new revenue streams as well taking costs and time out of existing processes. H2O.ai, an open source leader in AI and Machine Learning, is helping manufacturers adopt AI and implement this transformation.

AI is pushing the boundaries for Manufacturers

Improve manufacturing efficiencies –
Manufacturers often consider production efficiency as their most important performance metric. Any improvement in this metric directly improves their topline by producing more goods in less time with lesser resources. This would mean that their production floor shouldn't just face any downtime, the equipment in fact should continuously run at maximum capacity, i.e. provide the best yield possible. By collecting historical sensor data and deploying sophisticated ML models that take into consideration the machine physics, a robust AI solution can be developed that alerts the plant manager when the equipment performance degrades.

Industry
MANUFACTURING

Use-cases in Manufacturing powered by AI

1. Predictive maintenance:
This is one of the most widely sought-after use-cases for manufacturers. Accurately predicting machine failure using all available sensor data from well-instrumental equipment can be a monumental task. Deploying the right ML model can help manufacturers prepare for a potential equipment downtime and schedule a technician visit at the right time.

2. Supply chain optimization:
A global manufacturer has to deal with a complex matrix of vendors and suppliers. Procuring raw material from the most cost-effective supplier while maintaining high product quality and low cost of procurement can be daunting task. It is key to ensure raw goods reach manufacturing plants in the least amount of time possible and finished goods are delivered in the faster route possible. Machine learning has proven instrumental to manufacturers for managing this complexity with drastically lesser resources and better accuracy.

3. Yield prediction:
Maintaining high yield of the product directly relates to the top line for manufacturers. This makes predicting any changes in the yield very important for sustained production capacity. AI techniques can be used to understand changes in factory output resulting from changes in raw material, temperature variations and equipment tuning beforehand.

4. Transportation optimization:
Depending upon the types of goods produced, manufacturers have to ensure that they arrive in good condition. Quality management through the transit is crucial, thereby making transportation optimization a top priority for manufacturers. Manufacturers can build predict the quality of their products under given transit conditions, hence giving them the opportunity to improve refrigeration (for food produce) or optimize routes.

Build better products using AI-driven insights –
Unlike the older days, manufacturers now have a much granular view around the quality of the products they manufacture. As manufacturers take on digital transformation initiatives, building better quality products is top-of-mind for the business. Needless to say, better quality products directly increase the market share of their products. By understanding customer behavior patterns, product recall data, product seasonality, preferred mix of ingredients (for food producers) and more, custom ML models can help manufacturers better align their products to changing customer preferences.

Drive better workforce productivity –
There is probably nothing more important for a manufacturer than ensuring their employees' time is utilized optimally. Reducing unnecessary trips to fix a machinery that isn't broken, automating the mundane tasks on the factory floor to robots, providing accurate insights into the business are just a few examples of how AI can drastically improve the productivity of the most important resource at the manufacturer's disposal – people.

Why H2O.ai for Manufacturing

H2O.ai offers an award-winning automatic machine learning platform in Driverless AI and has been recognized as an industry leader in the Forrester New Wave™: Automation-Focused Machine Learning Solutions, Q2 2019. H2O, open source, is already being used by hundreds of thousands of data scientists and is deployed at over 18,000 organizations across nearly every industry. H2O Driverless AI empowers data scientists to work on projects faster and more efficiently by using automation and state-of-the-art computing power to accomplish tasks in hours instead of weeks and months. By delivering automatic feature engineering, model validation, model tuning, model selection and deployment, machine learning interpretability, time-series and automatic pipeline generation for model scoring, H2O Driverless AI provides manufacturers with a data science platform that addresses nearly every use case. H2O Driverless AI also includes important advanced capabilities including built-in model interpretability and auto documentation with reason codes to ensure validation of machine learning models before deploying in production.

Customer Case Study
Hortifrut, leading producer of berries in Chile predicts quality of blueberries.

Hortifrut uses H2O Driverless AI to predict the quality of blueberries at the destination using the GAL information from the origin and the time in transit. Manually tuning model parameters used to take weeks for the data scientist team; with Driverless AI this just takes a few hours.

Customer Case Study
A Global Industrial Manufacturer

A large global industrial tools manufacturer with over 11 manufacturing plants around the world, uses H2O Driverless AI to optimize the supply chain – from predicting which materials will be needed in which plant for which repeat or new customer order. They saved 25% of the time in this scenario by creating models in much less time than expected.

**Win with AI –
Get Started Today**

AI is critical to success in the manufacturing industry. Driverless AI enables manufacturers to improve production efficiencies, optimize supply chain, determine optimal transportation to market, and predict and prevent machine failure in advance. To learn more about H2O.ai and to get a 21-day free trial of Driverless AI visit us at www.H2O.ai

About H2O.ai
H2O.ai is the open source leader in AI and automatic machine learning with a mission to democratize AI for everyone. H2O.ai is transforming the use of AI to empower every company to be an AI company in financial services, insurance, healthcare, telco, retail, pharmaceuticals and marketing. H2O.ai is driving an open AI movement with H2O, which is used by more than 18,000 companies and hundreds of thousands of data scientists. H2O Driverless AI, an award winning and industry leading automatic machine learning platform for the enterprise, is helping data scientists across the world in every industry be more productive and deploy models in a faster, easier and cheaper way. H2O.ai partners with leading technology companies such as NVIDIA, IBM, AWS, Intel, Microsoft Azure and Google Cloud Platform and is proud of its growing customer base which includes Capital One, Nationwide Insurance, Walgreens and MarketAxess. H2O.ai believes in AI4Good with support for wildlife conservation and AI for academics. Learn more at www.H2O.ai

H2O.ai