



Industry
Automotive

Objective

The client sought to have real-time actionable insights on its repair and maintenance dark data to identify root causes of issues and provide a means to get early warning of problems for the design and manufacturing.

Approach

The appliance uses real-time dark data, consisting of historical warranty repair tickets in multiple languages. This approach replaced the existing method that used humans and traditional NLP, for understanding “messy” text data, which lead to poor results and high costs from delays in identifying problems.

IT Matters

- Train the cognitive system with any language, directly from the unstructured warranty repair tickets data
- Autonomous learning and reasoning, which runs on a customized plug and play HPC appliance
- Leverage the Loop Q platform with self-learning cognitive S/W robots
- Cognitively retrofit all your legacy systems with a single platform
- End-to-end from hardware to intelligent solution

Business Matters

- Shortened the time frame of detection-to-correction
- Real-time dashboard details spikes and trends associated with repair data for each model

Cognitive warranty and service analytics

Early defect detection powered by real-time actionable insight.



Quality issues and recalls have always been a major concern for the automotive sector but with recall units elevating for the third consecutive year and the light vehicle automobile recall units topping 50 million in 2016¹, it is more pressing than ever. These issues hurt automotive brands, decrease customer satisfaction, and ultimately reduce vehicle sales.

A leading automaker that manufactures and sells 5 million automobiles and commercial vehicles under different brands per year wanted to address this issue by migrating from a traditional NLP approach using humans, to a cognitive solution that leveraged dark data from historical warranty repair tickets in multiple languages. This new method provided real-time actionable insights to identify the root cause of issues and a means to get early warning of problems for design and manufacturing.

Challenge

Minimize the impact from defects

With their current method garnering poor results as well as high costs due to delays in identifying problems, it was clear the client needed to reinvent their approach to early defect detection.

The client sought to have real-time actionable insights on its repair and maintenance dark data to identify the root causes of issues and provide a means to get early warning of problems for the design and manufacturing. The data is created from the dealers in 53 different countries in their local dialect with mechanics using specific terminology and regional language.

¹2017 Automotive Warranty & Recall Report



Customer at a glance

Leading Automaker

A leading automaker that manufactures and sells 5 million automobiles and commercial vehicles under different brands every year.

Application

- Unsupervised Human-Capacity Cognitive Computing

Hardware

- Apollo 6500 Gen9
- Hosting up to 8 P100 and 256 GB of RAM, using 2690V4 processors

Loop AI Labs HPC appliance

- Powered by GPUs and scales from 8,000 cores up to 40,000 cores
- Up to eight appliances clustered using InfiniBand, addressing high-demand processing tasks

Software

- Loop Q, Loop AI Labs' unsupervised human-capacity cognitive computing platform is designed to be general purpose, enabling endless possibilities for implementing various cognitive applications across all industries
- Learning on the dark data of historical warranty repair tickets in multiple languages.



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Cognitive Solution

Proactively manage defect detection through cognitive computing

The cognitive application developed by a Loop Certified Partner uses the Loop Q cognitive appliance. The HPE Apollo 6500 server is the main platform for training the cognitive learning models across the enterprise. It provides rack-scale, automated, real-time intelligence, using up to 8 GPUs per compute node, pairing perfectly with the Loop Q appliance.

The unsupervised language-independent learning is the perfect solution to learn and understand the warranty repair tickets from dealers in 53 different countries and multiple languages, in real-time. As Loop Q is language-independent it learns without translation as a native speaker, understanding any dialect directly from the ingested data, including machine languages and rapidly-evolving writing or wording conventions.

Dark data used for learning phase:

Historical warranty repair tickets in multiple languages.

Dark data used for reasoning phase:

New warranty repair tickets in multiple languages.

Benefit

Shortened the time frame of detection-to-correction

Real-time dashboard details spikes and trends associated with repair data for each model. The visualization of the warranty repair tickets allows for the manufacturer to swiftly address issues as they arrive. These ways to incorporate the collective insights into design practices help avoid similar issues in the future: For a leading automaker, providing safe and sturdy vehicles is the top priority. And last but not least, streamlining the warranty repair process is essential to maintaining trust between automakers and their customers.

“Automotive safety is being revolutionized by analysis of historical warranty repair records. Early detection of defects can save companies millions while preserving a high-quality brand image. The cognitive insights provided by HPE and Loop AI Labs are a powerful force for change in the industry.”

- Thomas H. Davenport, Distinguished Professor, Babson College and Research Fellow, MIT

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a000XXXXenw, April 2018