Cerence Car Knowledge

Helping customers understand their car by answering questions dedicated to the functioning of the car.

We aim to mitigate the need of owner's manual and online search to understand the car better!

A car is a complex machine with over 300k parts in stores, 10k software parameters, 106 technical configuration rules, etc. The customer who owns the car may not know all features and there is no credible way to assist them to diagnose a problem in the car. Customers either perform online search or may use owner's manual to diagnose the problem. However, it is time consuming. Online search on the other hand do have lot of mis information, and it does not provide any specific answer dedicated to the driver's car or needs. Cerence Car Knowledge eliminate the need of lengthy owner's manual and provide concrete information related to the functioning of the car, or to diagnose an issue based on a specific car configuration (instead generic answers).

We are helping customers to understand their car by answering questions dedicated to working and functioning of the car –"How do I turn on the seat heating?". We provide voice enabled question and answering (Q&A) system as user's guide to car's functionality.

Getting to know their vehicle	Discovering vehicle features and functions	Understanding current state of the vehicle	Troubleshooting and solving problem	Seamless on boarding experience

Our solution can easily be integrated in a smart phone app of the OEM.

Competitive Edge

- Our close relationships with OEMs
- Closely integrated into the cars
- Easily scalable to multiple languages
- Our answers to the user questions are tailored to the driver's car mode
- Robust solution independent of the information sources (FAQ, owner's manual, etc.)
- An easy update for new FAQs, car lines, and new manual versions via a web-based UI.

"How do I turn on the seat heating?"

Cerence Car Knowledge

Our solution is based on credible information fusion from several heterogeneous sources. We use state-of-the-art AI algorithms to display the most appropriate answer based on the model of the car user is driving.

TECHNOLOGY

We use advanced AI technologies like Neural Networks (more precise: Deep Neural Networks) to answer arbitrary questions from (owner's manual) text. Once product is on the road, we use production data of user asked questions to re-train our models to improve accuracy in continuous improvement setting. Our robust technology allows users to seek information not only in form of a question, but also using a statement (I want you to educate me on cruise control), or via commands / fragments including spelling mistakes for a chat channel.

We also provide OEMs a seamless way to upload their owner's manual via a web-based UI, and our framework automatically extract information. We get credible information from the OEMs about their car, which contain:

- Information in the owner's manuals

- Frequently asked questions by drivers based on OEM experience

- Facts about cars (e.g.: Tire pressure, car width, etc.)

- Other sources (e.g. videos)

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OFFERINGS

Automatic QA module
This module reads owner's manual and identifies text passages that answer user questions. We support concise grammatically correct questions typically start with Wh-word with full flexibility to ask question freely (i.e. paraphrased question).

Frequently Asked Questions Module
FAQ Module covers questions that are not in the owner's manual or based on OEMs experience will be most asked by drivers. We use question/answer list provided by OEMs. We can also mine OEM specific questions from the Web.

Contextual State Module
While answering a specific question, we take into consideration the sensor information (if available). For instance, certain answers are only provided when car in in the park mode (e.g., how can I change tires?).

Troubleshooting Module
The module targets to aware customer about troubleshooting information present in the owner's manual including tables, images, etc. Car Knowledge allows user to describe a situation or maintenance issue in pure verbatim and underlying technology extract the correct answer from the manuals.

Product Features
- Scalable solution in multiple languages:
  Support all the Cerence language offerings.

- Multichannel Access:
  Support seamless user experience by integrating our product into OEM specific app. User can learn about new features from anywhere.

- Multimodal support:
  Can easily be integrated with multimodal functionality – "why is that red light blinking?"

- Premium Cloud Domain:
  Part of Cerence Premium cloud bundle (Automatic QA+FAQ module). Additional price for other functionalities.

AI for a World in Motion

cerence®