Five ways AI could make your car as smart as a human passenger

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Credit: AI-generated image (disclaimer)

Driving long distances without a passenger can be lonely. If you've ever done it, you might have wished for a companion to talk to—someone emotionally intelligent who can understand you and help you on the road. The disembodied voice of SatNav helps to fill the monotonous silence, but it can't hold a conversation or keep you safe.

Research on driverless cars is well underway, but less is heard about the work being done to make cars a smart companion for drivers. In the future, the cars still driven by humans are likely to become as sensitive and attentive to their driver's needs as another person. Sound far-fetched? It's closer than you might think.

1. Ask your car questions

We're already familiar with AI in our homes and mobile phones. Siri and Alexa answer questions and find relevant search items from around the web on demand. The same will be possible in cars within the near future. Mercedes are integrating Siri into their new A-class car. The technology can recognise the driver's voice and their way of speaking—rather than just following a basic set of commands, the AI could interpret meaning from conversation in the same way another person could.

2. From the screen to your drive

Those with longer memories may remember a talking car that was a regular on TV. Knight Rider and its super intelligent KITT was a self-aware car that was fiercely loyal to Michael, the driver. Though KITT's mounted flame thrower and bomb detector might not make it into commercial vehicles, drivers could talk to their cars through a smart band on their wrists. The technology is being developed to allow people to start their car before they reach it, to warm the seats, to set the destination on the navigation system, flash the lights, lock the doors and sound the horn—all from a distance with voice command.

3. Big Motor is watching you

A driver alert system already exists that, through a series of audible and vibrating gestures, tries to keep the driver awake or warn them against

sudden lane departure. By 2021 though, there are plans to install in-car cameras to monitor a driver's behaviour.

If the driver looked away from the road for a period of time, or appeared drunk or sleepy, the car would take action. This might start with slowing down and alerting a call centre for someone to check on the driver, but if the driver didn't respond, the car could take control, slow down and park in a safe place. The potential to improve road safety is promising, but there are credible concerns for what in-car cameras could mean for individual privacy.

4. A cure for road rage

Increasingly intelligent and perceptive cars won't stop at visual cues. An AI assistant has been developed which can pick up on the driver's mood and well-being by detecting their heart rate, eye movements, facial expressions and the tone of their voice. It's suggested the car would learn the driver's habits and interact with them by, for example, playing the driver's favourite music to calm them down. It can also suggest some nice places to go—perhaps a nearby café or park—where the driver could stop to improve their state of mind.

5. A butler on the road

As technology is developed to monitor the mood of drivers, the next step may be cars which can act to improve them. Autonomous vehicles which can take over driving when drivers are stressed could change the windscreen display to show photographs or peaceful scenes. Smart glass windscreens could even black out the surroundings entirely to create a tranquil space—known tentatively in ongoing research as "cocoon mode"—where the interior is invisible from outside and the occupants can rest while the car drives. Cars might even dispense snacks and drinks

on demand from refrigerated cartridges, using technology that's under development but not scheduled to make its debut until 2035.

Whether for good or ill, cars are likely to change beyond recognition in the near future. It may no longer be ridiculous to think that the wildest science fiction dreams could be driving us to work in the not so distant future.

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