



Who Drives the Driverless Car?

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Level 3



"Story time!" Suvi rushed into her grandmother's arms. It was a warm night and the stars lit up a cloudless sky. Paati was visiting Suvi this summer.

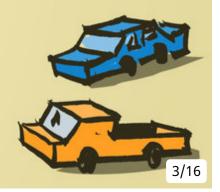
"Shall we continue with the Ramayana?" asked Paati.

"Yes!" said Suvi. Paati had already told her about the war where Rama defeated Ravana, the king of Lanka. Now Paati picked up from where she had left off.



"After Ravana was killed, Rama had to return to Ayodhya, his kingdom far, far away. So Vibhishana, the new king of Lanka, gave him a magic chariot. It was called Pushpaka Vimana and could fly on its own."

"How did it know where to go?" asked Suvi.





"Oh, the traveller just had to give it a command," said Paati.

"That's just like a driverless car!" said Suvi.

Paati's eyes grew round. She said, "A car without a driver! What is this amazing thing?"

"A car that can drive on its own," sang Suvi.

"I don't believe it!" said Paati. "How can a car drive by itself? By magic?"

"Not magic, Paati," said Suvi. "Science!"

"Then tell me," asked Paati, "how does this driverless car work?"



Suvi wasn't sure. She turned on the computer to look it up. While she was trying to connect to the internet, Suvi asked, "Do you drive, Paati?"

"I used to ride a scooter many years ago," she replied. "But now I'm scared to even walk on the streets. I'm afraid I will bump into somebody or get hit!"



Suvi and Paati were looking at the screen. One website said driverless cars were also called self-driving cars.

"And there's a computer, just like this one, inside each car," said Suvi, patting the desktop. "And cameras and sensors. The computer uses these to make a picture of the road around the car."

"This picture," she went on, "tells the car how far away other objects are. Like a tree or a road divider. That way, the car can avoid crashing into them. The same sensors also show the car where and how to park."



"But how does the car know where it is and where to go?" Paati wondered.

"The car's computer has maps in it, which tell it where it is. When we give it an address, these maps can figure out how to get us there," Suvi explained.



Just then, Appa came in. He looked very tired. "What's the matter?" asked Paati.

"Traffic is a nightmare!" Appa grumbled.

"Everybody is in a hurry, nobody follows the rules."

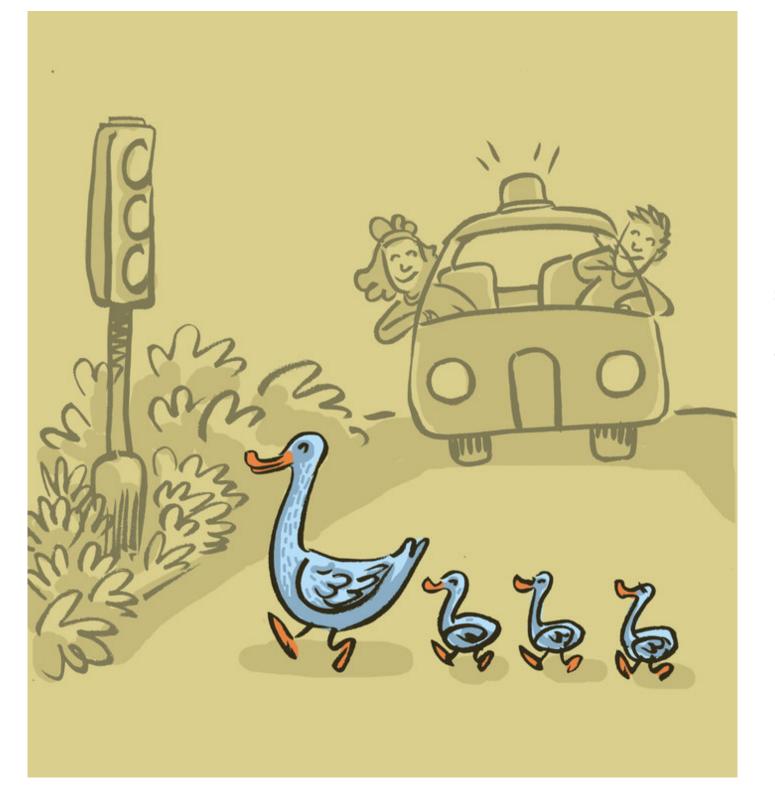
"If everyone was in a driverless car, this wouldn't be a problem!" Suvi said.

Paati turned to her in surprise.

Suvi continued, "The engineers who build the car's computer put all the traffic rules in it. So when the computer makesa decision, it checks to see if the car is following the rules."

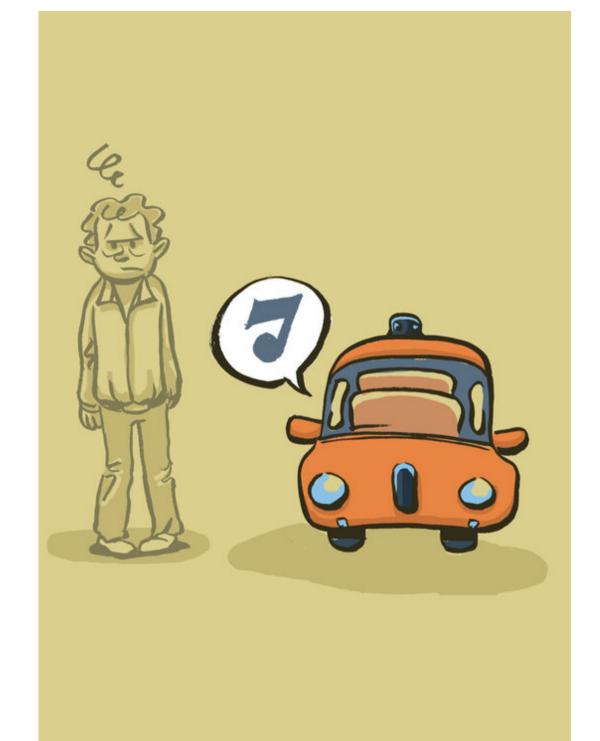
"Hmm..." said Paati. "Let's say the car starts moving when the traffic light turns green but someone crosses the street suddenly. Wouldn't the car hit them? A human driver might be able to stop the car."





"I had to do that today!" said Appa. "A man speaking on his phone wandered across when the pedestrian light was red. I stopped just in time. Phew!"

"My goodness!" said Paati, looking worried.



"The self-driving car's first rule," said Suvi, reading from the screen, "is not to hit anything or anybody. So even if the traffic rule says the car can go, its sensors will stop it if there's something in front."

"Are you saying the computer understands that not hitting anything is more important?" asked Paati.

"Exactly!" replied Suvi.

"But can a computer make the car stop faster than a driver can?"

"Oh yes, Paati," said Suvi. "It can make decisions much faster than a human being can. And it never gets tired or sleepy."

"And I am sure computer-controlled cars would never try to break the rules to get ahead like many drivers do," said Appa. "Did you know drivers' mistakes are responsible for almost 90% of car accidents?"

Then he added cheerfully, "In a driverless car, I could work or push my seat back and relax while the car does its job."

"Safer roads and fewer accidents mean less worry," said Paati, looking at Appa fondly. "I don't know if our Pushpaka Vimana stories are fact or fiction, but science is truly magical!"



Did you know?

1. The earliest idea for the driverless car can be traced to Leonardo Da Vinci, the famous Italian painter, sculptor, and inventor. In the 15th century, he sketched a blueprint of a cart that could move on its own. In 1925, a car was guided through traffic in New York City via radio signals sent from another car following close behind.

- 2. Self-driving cars are still being tested by computer and car companies. Some such cars can be found on the roads of Western countries. But someone is always in the driver's seat to make sure there are no accidents.
- 3. In India, plans are underway to allow similar testing of driverless cars. But with so many people and so much traffic on our roads, this is going to be a challenge!





- 4. Over one million people in the world die in car crashes every year. Imagine how many lives driverless cars could save.
- 5. Driverless cars can 'see' and drive in complete darkness, thanks to their maps and sensors.
- 6. Some existing cars already have features like automatic braking, lane keeping and cruise control.





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A Corporate Social

Who Drives the Driverless Car?

(English)

Story time! Paati is here for the summer and Suvi wants to make the most of it. As her grandma starts describing the Pushpaka Vimana, Suvi wonders if it's like a driverless car, which drives you safely to any destination you name. Buckle up, enjoy the ride!

This is a Level 3 book for children who are ready to read on their own.



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