Edge-AI Speaker Recognition System for Automotive

Panasonic AUTOMOTIVE

What's Speaker Recognition System

- Technology

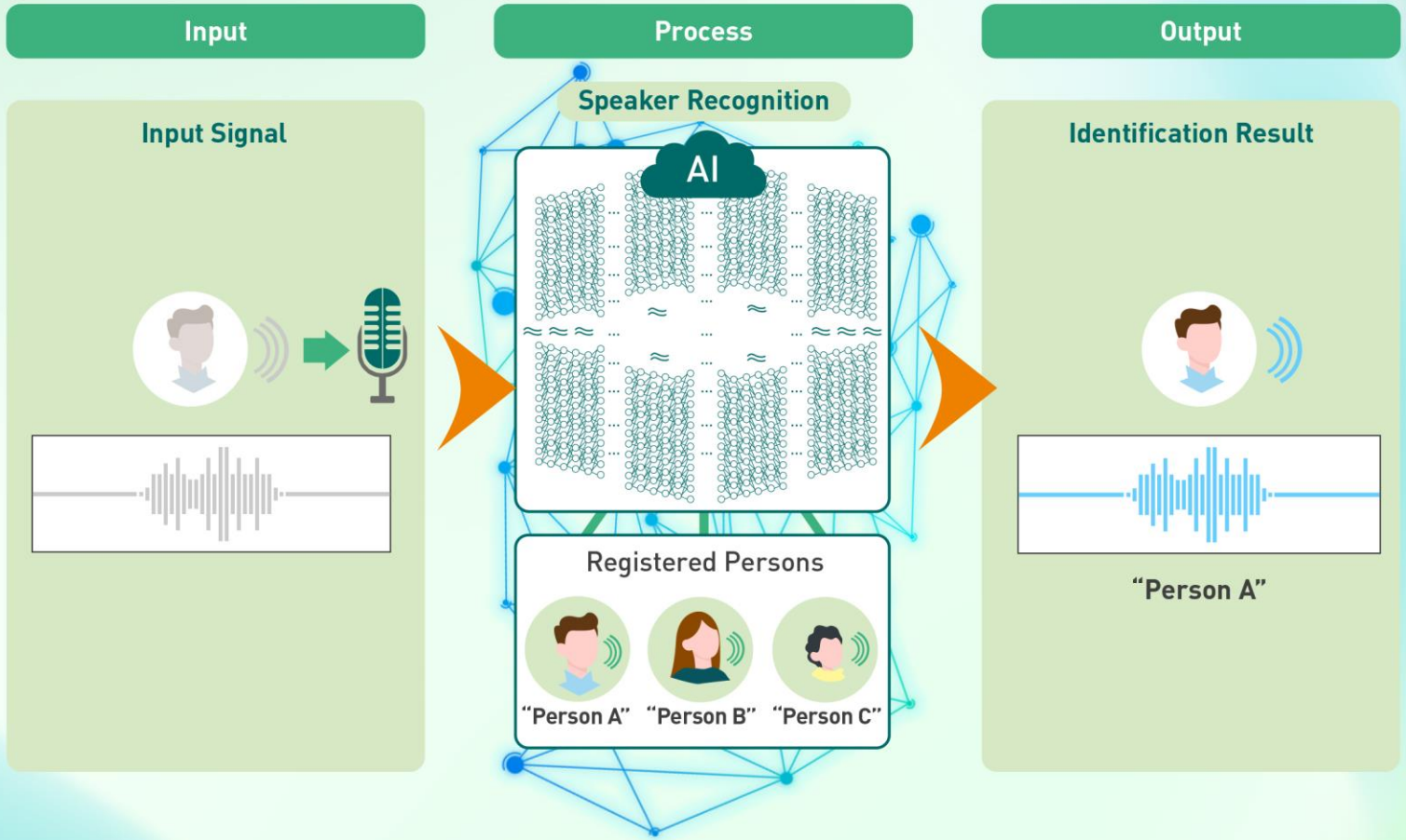
Speaker Recognition System improves personalization of Voice User Interface.
The system identifies a user from a microphone input speech by comparing it with pre-registered speeches.

- Trend

The performance is significantly improved by AI progress and Cloud usage.

Panasonic's Cloud-AI speaker recognition system achieved excellent results in an international competition.

We are developing Edge-AI Speaker Recognition System for Automotive without Cloud.



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Benefits

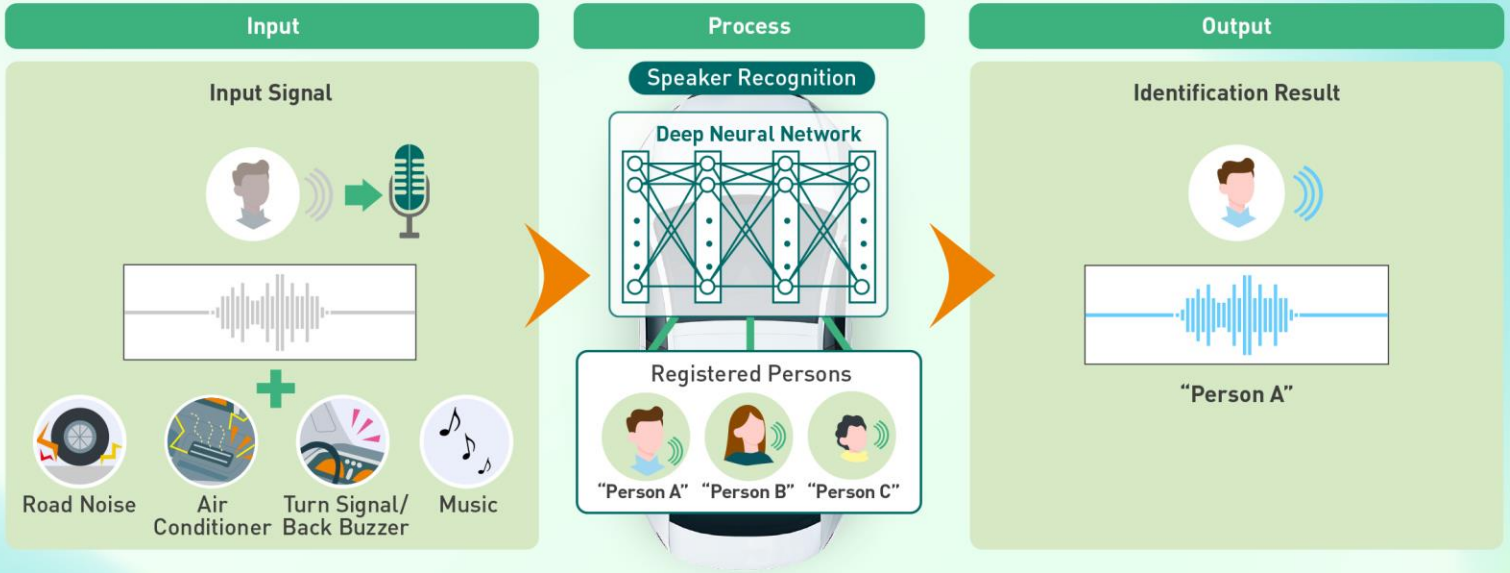
-Comfortable Personalization

User can experience Comfortable Personalization of Voice User Interface in Automotive use case. Because our technology stably works with quick response under various vehicle noise.

-Easy to use

Additional HW is not needed.
Because microphone is a standard equipment in a roof of vehicle.
Voice User Interface is an easy and safe way for a user while driving.

Automotive use case



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Technical Advantages

Dedicated Edge-AI model for Automotive use

-Quick Response

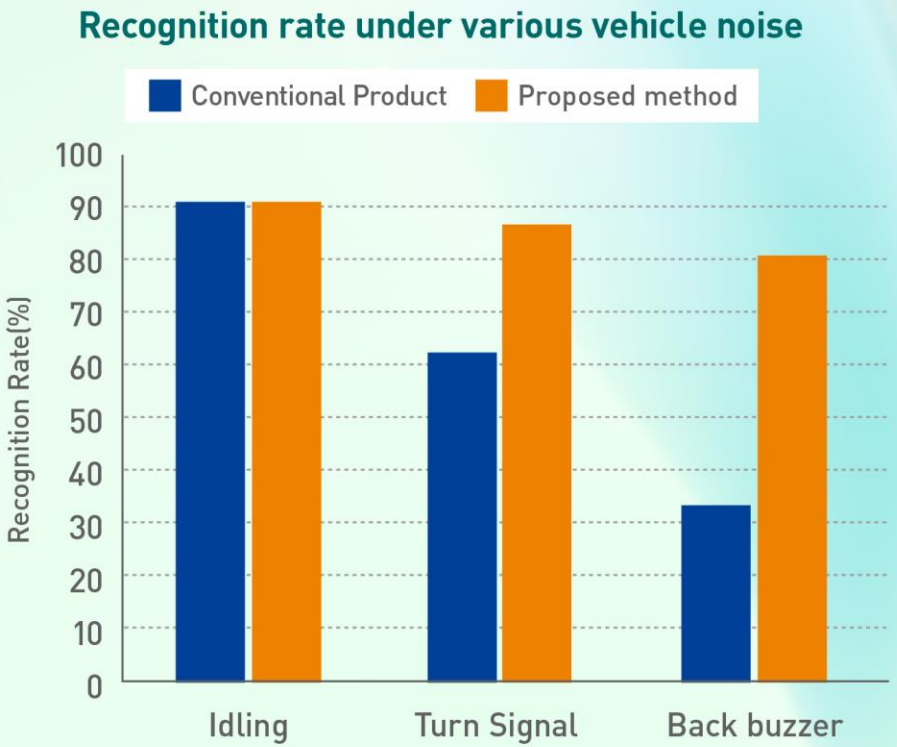
Edge-AI can respond quickly because it operates locally without network connection delay.
The Deep Neural Network (DNN) model is also designed low latency.

-Light-weight processing load

The DNN model runs with light-weight processing load because of compact design for embedded CPU.

-Robustness

Stably works in a vehicle because DNN model is trained with the data including various vehicle noise and data augmentation.



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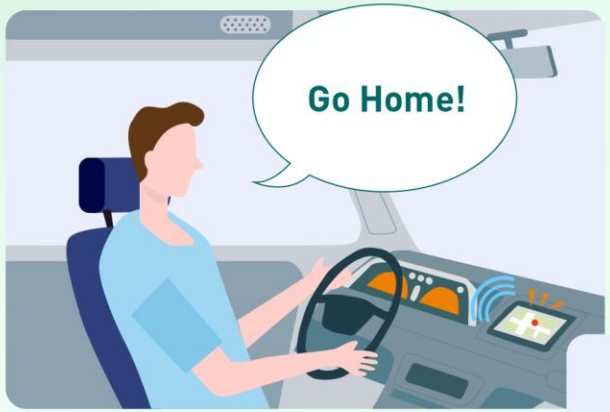
Applications

- Secure Voice command for IVI

Only react to the registered user



- Personalized Voice Assistant

Behave differently according to the user
e.g. Play recommended songs

- Secure Voice command for opening the trunk

More convenience and security with smart key