# Emotion AI Prompt Engine

Dynamic human-vehicle interaction built on generative AI

The Smart Eye Emotion AI Prompt Engine is a concept at the very edge of automotive innovation, seamlessly merging advanced automotive sensing technologies with generative AI to create an empathetic in-vehicle AI companion.

Redefining vehicle intelligence, it's equipping cars with the ability to not only listen, but truly understand. Enabling a dynamic interaction between the car and the people in it, it unlocks next-generation safety, comfort, and entertainment.
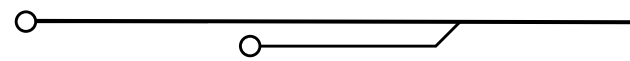

/ Smart Eye's CES 2024 Demo

For CES 2024, Smart Eye will demonstrate this concept using a driver monitoring camera that focuses on the gaze movements, facial expressions, emotions, speech, and activities of the driver. However, using a wide-angle cabin monitoring camera, the technology could be extended to also include other people and objects present in the cabin

/ How does the Emotion AI Prompt Engine work?

The Smart Eye Emotion AI Prompt Engine leverages Smart Eye's sophisticated sensing technologies, such as eye tracking, facial expression analysis, emotion AI, and activity detection. These technologies provide a holistic understanding of the in-vehicle environment, capturing details about the occupants, their activities, and their emotional states.

This rich sensory data is then synergized with the capabilities of large language models (LLMs), such as ChatGPT. The Smart Eye Emotion AI Prompt Engine translates sensory inputs into text prompts, enabling these LLMs to engage in meaningful, context-aware interactions with vehicle occupants. This allows for nuanced interactions with the people in the vehicle, making it more attuned to the human aspects of the occupants.
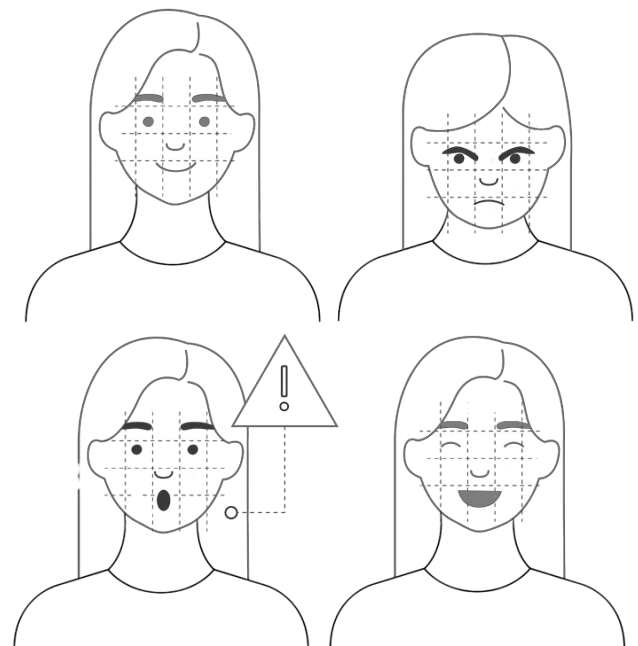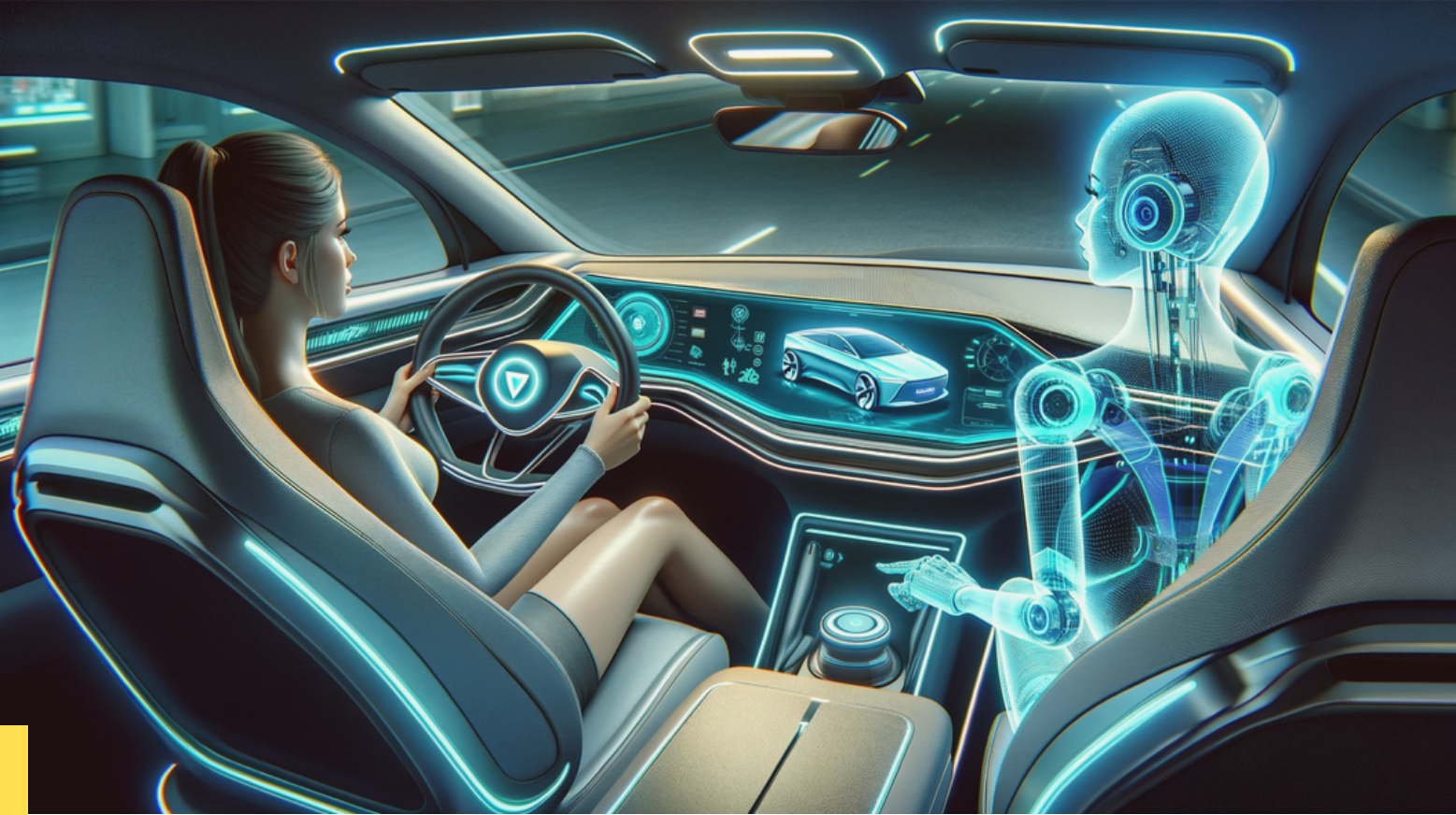
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Enhancing Vehicle Experiences Through an AI Companion

The AI companion enabled by the Smart Eye Emotion AI Prompt Engine is envisioned as a co-driver that can offer company, assistance, engagement, and vigilance – all in one:

Safety Applications

- Empathetically engage with drivers showing signs of fatigue to ensure alertness
- Offer hands-free or eyes-free alternatives to tasks that typically require phone usage, reducing distractions
- Adjust its level of interaction, refraining from speaking during critical driving maneuvers or moments of distraction

Entertainment and Engagement

- Provide interactive word games and other forms of entertainment to passengers
- Proactively adapt music playlists based on recognized song preferences and reactions
- Introduce AI companions with diverse and amusing personalities for a more enjoyable journey

Wellness and Comfort

- Offer personalized interactions with adaptive personalities to suit individual preferences
- Assist drivers in unwinding empathetically during post-work commutes
- Actively engage with occupants to uplift their mood and enhance their overall well-being during the journey

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