VinAI Smart ⚡MOBILITY
BROCHURE

https://www.vinai.io/

About VinAI

Founded in 2019, VinAI is the world's top 20 AI R&D company with a myriad of practical research projects and products. VinAI is headquartered in Hanoi (Vietnam), with an additional location in Ho Chi Minh City. Bringing together almost 200 high-profile researchers and engineers, VinAI sets out to transform its state-of-the-art AI research into products and services that solve real-world problems. VinAI is currently led by AI/Machine Learning and Mobility Experts from Google DeepMind, Adobe, Stanford Research Institute and other Global Automakers

Creating Innovative AI-Powered Products

Our goal is not just to develop new technologies, but to deploy state-of-the-art AI that has meaningful impact on people's lives with three divisions: Smart Mobility, Generative AI and Smart Edge. By applying advanced AI technology, VinAI Smart Mobility has improved safety and driving experiences for hundreds of thousands of drivers worldwide.

Conducting World-class AI Research

VinAI represents one of the highest concentrations of AI expertise in the region. Our research aims to advance fundamentals in machine learning, deep learning, and to investigate how they enable new AI methods in computer vision and natural language understanding. The goal for the research group is to conduct world-class breakthrough research in AI, demonstrated by our presence in the list of top-tier publications and patents. We have filed 68 patents, two of which have been granted in the United States.

Building the Next-Generation of Thought Leaders in AI

VinAI Residency Program was created to identify the top young AI talents that will be trained to become future AI experts and tech leaders in the fileds. At VinAI, the residents are expected to work on real-world AI problems and applications as well as to conduct research in different techiniques and methodologies.

Our Achievements

VinAi

Top 20
Global AI R&D Companies
By Thundermark Capital 2022

CES Innovation Awards 2024 Honoree

AUTOTECH BREAKTHROUGH AWARD 2024

80K+ Ship-to-market cars with our tech*

700K+ Vehicles set for shipment

08 Different car models

*as of Sep 2024

We Are Featured On

Bloomberg   **Deloitte.**   **Forbes**

NIKKEI Asia   **TechCrunch**   **VTV**

Our Global Collaborators & Customers

Confidential Tier 1   Confidential EU-based OEM

NVIDIA   **VinFast**   **Qualcomm**

intel.   **Google**   **aws**   **ADVANTECH**   **Lenovo**   **Hewlett Packard Enterprise**

ASUS   **AI SINGAPORE**   **Microsoft**   **VINHOMES**   **FPT**   **trustingsocial**

Stanford University   **RIKEN**   **VINUNIVERSITY**   **FUJITSU**   **viettel IDC**   **NIC**   **VINFUTURE**

VinAI - Your Trusted Partner

VinAI's Smart Mobility is a leader in smart mobility solutions for the automotive industry. By applying advanced AI technology, VinAI has enhanced safety and driving experiences for hundreds of thousands of drivers worldwide. Our technologies and features have been integrated into various globar car models. With a robust portfolio of AI-powered automotive technologies, VinAI empowers OEMs to address diverse industry challenges, from meeting regulatory requirements to improving driver safety and comfort, all while optimizing resources.

▶ REGULATION COMPLIANCE

InteriorSense   GSR phase 1 - 2021/1341 DDAW
SurroundSense   NHTSA FMVSS 111 & UN ECE R158

▶ INNOVATION

We have developed many award-winning, world's first features at lightning speed, including **DrunkSense (Passive Drunk Detection System), MirrorSense (Automatic Mirror Adjustment Technology), Touch2Park (Touch-based Smart Parking Feature), Jelly View (3D Transparent Mode for Entire Car Body)**, and more.

▶ COMPATIBILITY

Portable with different platforms & systems, **adaptable to vehicles of all price ranges**. Featuring multiple camera placement options (Steering Column, Instrument Cluster, Center Stack, Rear View Mirror). **Available on the most popular SoCs** in the automotive field, such as NVIDIA, Qualcomm, Renesas, or Ambarella.

▶ ACCURACY

Our Face Recognition model ranked **6th in NIST 2020**. An independent benchmark by an EU Tier 1 supplier confirms **our performance ranks among the top 2 globally.**

▶ EFFICIENCY

We focus on updates via software enhancements and AI model optimization, requiring **minimal to no additional hardware cost**. Additionally, our solutions are designed to work efficiently even on automotive SoCs with limited resources, empowering OEMs to integrate advanced features **without increasing BOM costs**.

Our In-vehicle Showcase at CES

With our next-gen mobility solution that combines in-car monitoring and surrounding sensory systems, we are transforming the automotive industry by making driving a safer and more comfortable experience.

InteriorSense

This high-performance, ready-to-use in-cabin solution analyzes behavior patterns and provides real-time alerts, aiding drivers on the road.
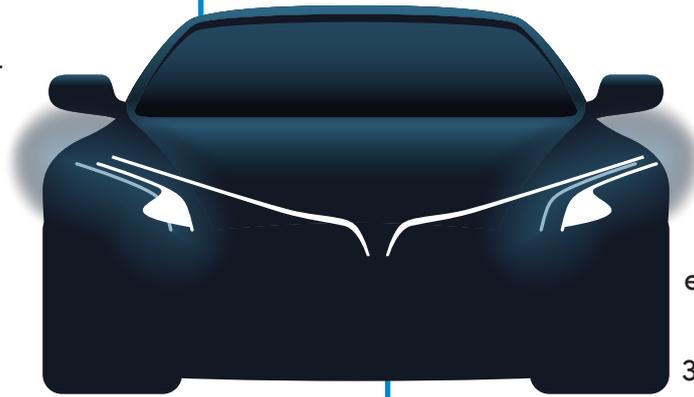
Our multi-camera system eliminates all blind spots and offers a complete 360-degree view around the vehicle in real-time.

SurroundSense

Driver & Occupants **Demo at CES** Monitoring Systems (DOMS)

Advanced Surround View **Demo at CES** Monitoring System & Jelly View

MirrorSense - Automatic Mirror Adjustment **Demo at CES**

JellyView - Car Undercarriage See Through **Demo at CES**

Phone Usage Detection **Demo at CES**

Rear Parking Assist **Demo at CES**

Face Recognition **Demo at CES**

Image Enhancement in Low Light, Bad Weather **Demo at CES**

DrunkSense - Passive Drunk Detection System **Demo at CES**

Touch2Park - Level 2 Smart Parking **Demo at CES**

AR HUD (Augmented Reality Head-Up-Display)

Memorized Parking Assist - Level 3 Smart Parking

Child, Pet, Object Left Behind Detection

360 Security - Safeguard Your Parked Car

Emotion Detection

Narrow Street Assistance

Innovative Features at CES

### DrunkSense - The World's First Passive Drunk Detection System that Works without a Breathalyzer

DrunkSense uses a multi-sensor approach that combines input from the DMS camera, such as tracking eye movement and blinking, with vehicle information like braking and acceleration control, to capture the complete views of drivers' behaviors. DrunkSense has **85% sensitivity in drunk driver detection, 8% higher than industry standards.**

- **Passive Monitoring:** No user interaction needed.
- **Safety Oriented**: Ability to detect drunk driving even when their BAC is below the legal limit.
- **Minimized False Alarms**: Ability to distinguish between impaired drivers and intoxicated passengers. Our advanced algorithms also filter out drowsiness and distractions, minimizing false alarms.
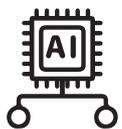
MirrorSense: The World's First AI-driven Automatic Mirror Adjustment Technology
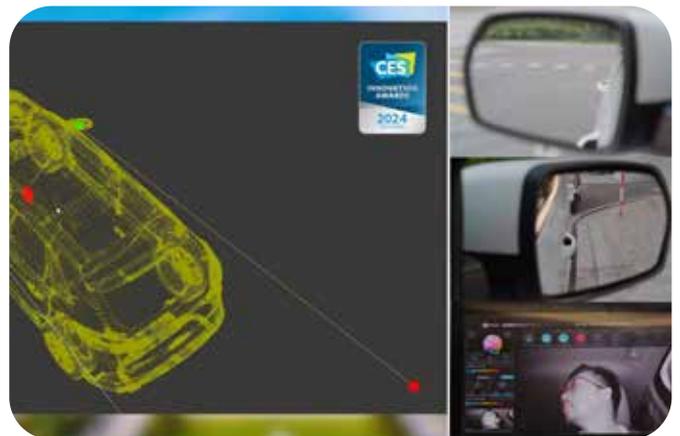
MirrorSense, the world's first AI-driven automatic mirror adjustment technology developed by VinAI, has been recognized as **an Honoree in the Vehicle Tech and Advanced Mobility category at CES 2024**. The automatic mirror adjustment technology in VinFast MirrorSense precisely detects the car driver's head position and eye gaze direction with a 10mm accuracy, automatically adjusting the position of all corresponding mirrors. This technology can be easily expanded to enhance safety applications while driving, such as augmented reality heads-up displays and auto-adjust seat settings, providing an intelligent, convenient, and safe driving experience on every journey.

Innovative Features at CES

JellyView: 3D Transparent Mode for Entire Car Body

Jelly View allows drivers to gain a clear view beneath their vehicle. The view is constructed using images from sensors and cameras, enabling Jelly View **to be seamlessly integrated into existing vehicles without additional hardware.**

- Unlike typical SVM providers using front or rear cameras for undercarriage visuals, JellyView **synthesizes data from all cameras** to ensure coverage at every steering angle.
- Offering **diverse viewing modes**, including front/rear and surround/top view.
- Seamlessly blending the undercarriage visuals with the surrounding layers, ensuring a cohesive and visually appealing experience.

Touch2Park - Effortless Parking at your Fingertips. AutoTech Breakthrough Award Winner

Touch2Park allows drivers to select any empty space – not just inside the parking lot, and park in or out in any direction with a simple screen touch.

- Utilizes only four fish-eye cameras along with VinAI's cutting-edge machine learning algorithm to provide a comprehensive 360-degree view of the vehicle's surroundings during parking maneuvers, **helping OEMs reduce the Bill of Materials (BOM) cost**.
- Handles **various parking scenarios**, including parallel, perpendicular, and angled parking, and **diverse environmental conditions**, such as crowded urban areas or poorly lit environments.

VinAi

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