

# Ushering the Future: Autonomous Follow-Me Bots for Seamless Taxiing guidance

Usherbot, an autonomous follow-me vehicle inspired by the grace of a stingray. With fluid form, intelligent navigation, and expressive light cues, it turns ground movement into a clear, confident, and seamless dialogue between pilot and machine—shaping the future of smart airports.

## Interaction

Projection & lightening patterns



Accelerate instruction



Turning animation



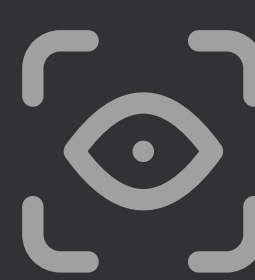
Warning stop



All weather  
solution



Less distraction  
experience



Easy  
Recognition

UsherBot's interaction module combines a full-width curved rooftop display with dynamic ground projections, delivering clear visual cues for every movement—green for acceleration, yellow for turns, and red for stopping. Designed for all-weather visibility, it minimizes distraction, streamlines pilot focus, and strengthens safety, efficiency, and trust.

## System Architecture



x1



x2



x3



x4



back camera

Signal Projector

rear light

Projection

UsherBot integrates advanced sensing and communication systems: a top-mounted LIDAR for 360° spatial scanning, front and rear cameras for continuous situational awareness, curved rooftop displays for real-time guidance, and dynamic lighting for clear directional cues. A rear-mounted projector further enhances communication by displaying dynamic light patterns and signal cues directly onto the taxiway.