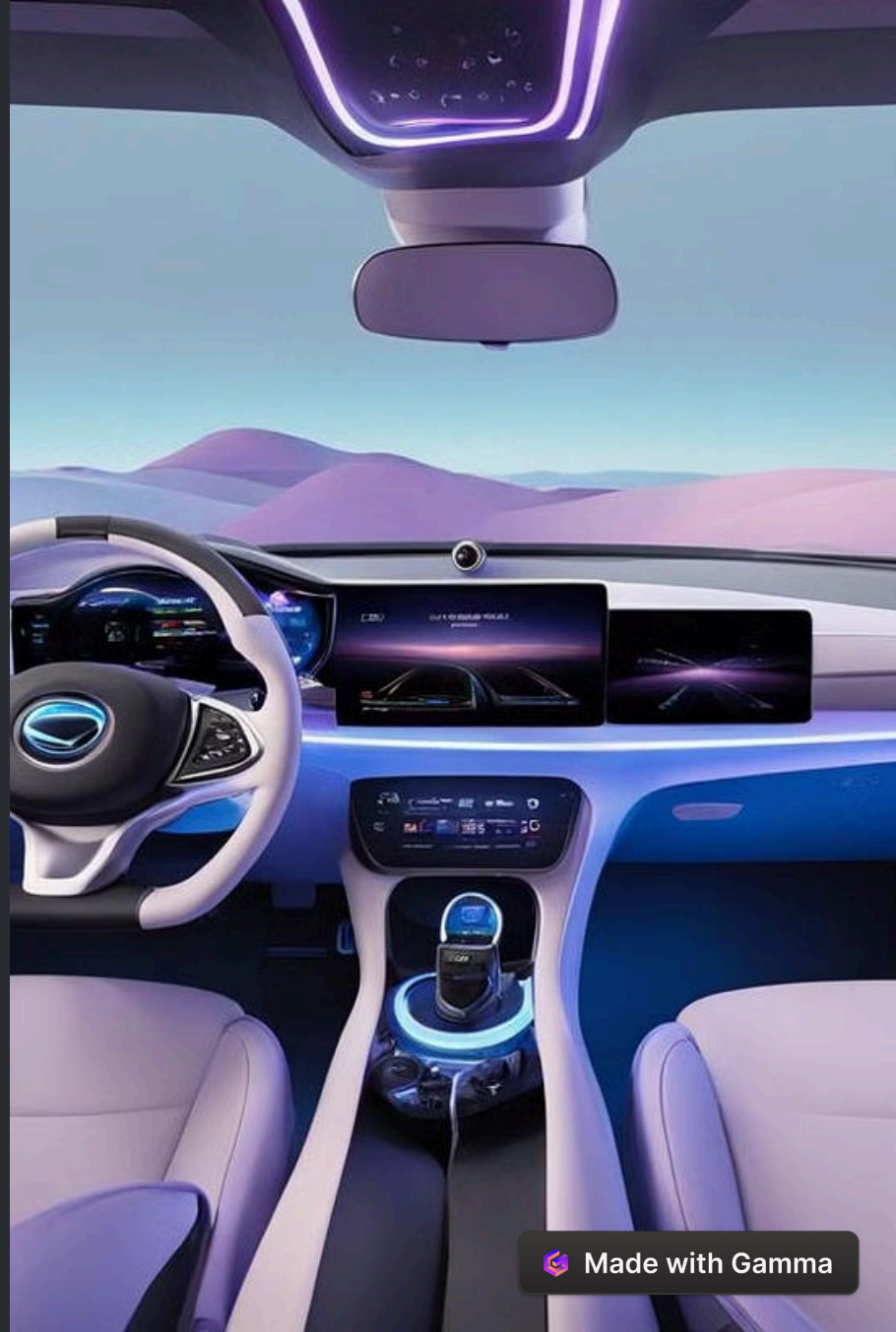
# Human-Agent Collaboration in Smart Cockpit

Enhancing situational awareness for UX and safety.

by Yitong Hu



# Background

1

## Autonomous Evolution

Evolutionary journey toward L5 autonomy

2

## Human Oversight

Necessity for human control

3

## Human-Agent Collaboration

Enhancing driving experience and safty

# Finished Work

1 Requirement Analysis

2 Demo Design

3 System Arch. Design

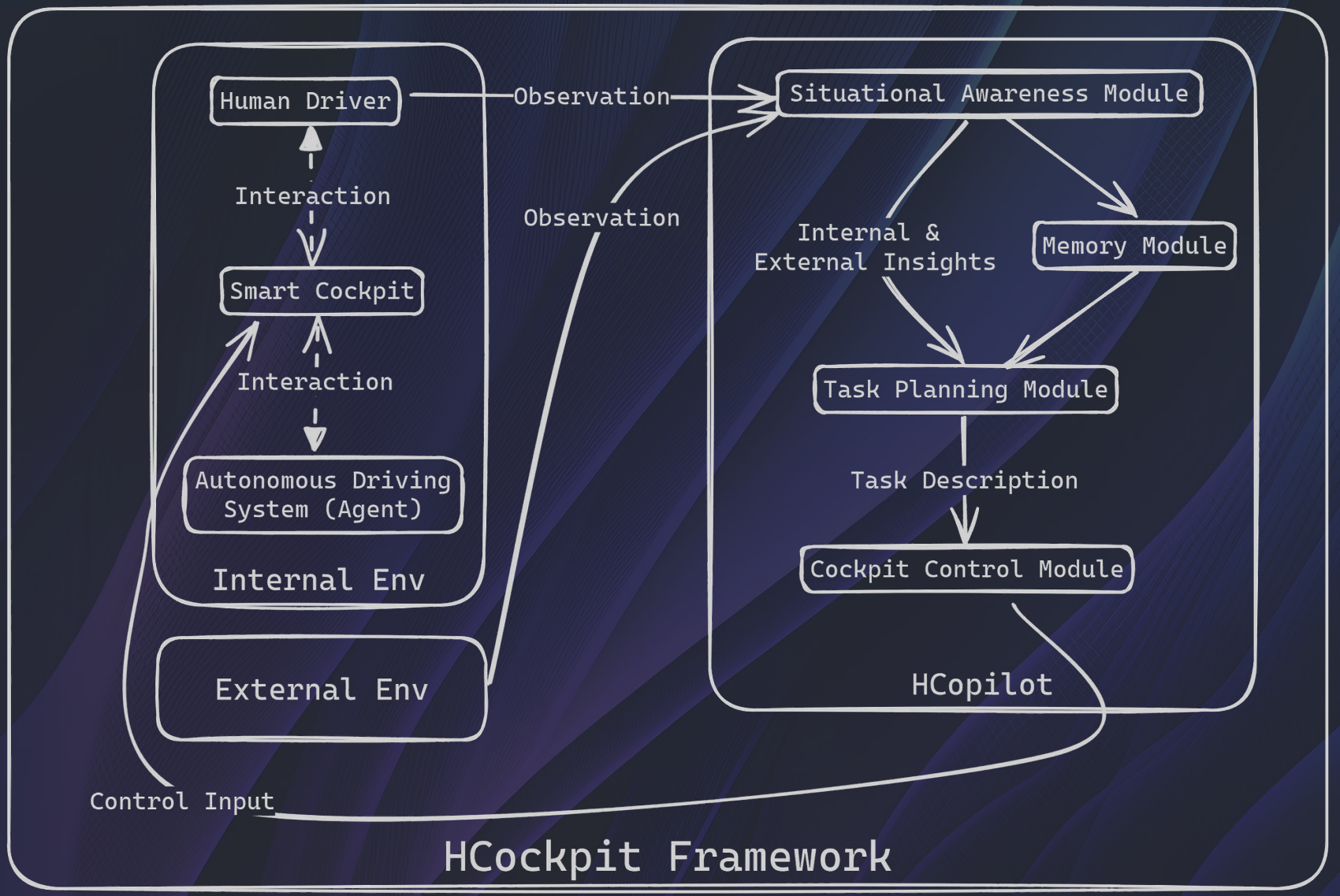
# Requirement Analysis

| Improve UX | Improve Security |
| --- | --- |
| User perception enhancement | Complex conditions handling |
| Interactive cockpit functions | Low attention alerts |
| Autonomous preferences | Proactive threat alerts |

# Demo

# Demo

# System Architecture Design



# Next Step

## Adapt and Integrate Machine Learning Models (undergoing)

- Adapt PaLI-X and PaLM-E
- Prompt-Tuning GPT-4 Turbo with Vision
- Integrate OpenaAI CodeX/Google RT-2

## Conduct Experiments

- Test HCockpit in GTA V/CARLA
- Adapt HCockpit to communicate with the simulator
- Define key performance indicators (KPIs)

## Develop a Demo

- Demonstrate HCockpit's capabilities on a variety of scenarios within the simulator
- Visualize HCockpit's perception and decision-making process

# Thank You