

## **Case Study Approach**

**Name of the Faculty:-** Dr Neha Jain

**Name of the Course:-** Artificial Intelligence

**Name of the Activity:-** Case Study Approach

**Students Involved:-** 3<sup>rd</sup> year B.Tech

### **Description of the Activity:**

Case studies are an instructional method (not a theory) that refers to assigned scenarios based on situations in which students observe, analyze, record, implement, conclude, summarize, or recommend. Case studies are created and used as a tool for analysis and discussion.

### **Instructions about the Activity:**

- Select an AI models
- Build a theoretical framework
- Collect data
- Describe and Analyze the case

### **Outcome of the Activity**

- Engages students in research and reflective discussion.
- Encourages higher-order thinking.
- Facilitates creative problem-solving.
- Allows students to develop realistic solutions to complex problems.
- Develops student's ability to identify and distinguish between critical and extraneous factors.

### **Conclusion**

Case studies act as relevant examples derived from real-life scenarios which are used as supporting evidence for the research.

## Autonomous Security Drone

By Varun Kumar Singh

Autonomous drones are unmanned aerial vehicles (UAVs) that operate using Artificial Intelligence (AI)-powered navigation and operational software, and do not require a human pilot. From taking off and landing to carrying out aerial site inspections and surveying, these aircrafts complete tasks and make decisions on their own.

Not all drones with autonomous capabilities are the same. It is one thing to automate a flight. Yet much greater value is realized from automating *the entire flight and data cycle* – preparation for flight, autonomous flight, data gathering, data upload and analysis, generation of insights, and preparation for the next flight.

An on-site autonomous industrial drone system (drone-in-a-box) is an all-in-one autonomous drone solution with two main components:

The platform – An autonomous drone and base station (“the box”) that has been specially adapted to the unique needs to large-scale industrial sites

AI-powered software that manages the drone and analyzes visual data gathered

These solutions are growing in popularity because of their immediate on-site availability, convenience, and data collection capabilities. Deployed on-site, a drone-in-a-box is available 24/7/365 to enable more efficient and frequent site and equipment inspections – collecting data in a consistent and persistent way, eliminating human error, and gaining actionable AI-driven insights. These systems also enable site stakeholders to react

## SOPHIA

By AYUSH KUMAR KASHYAP

### 1. Who is Sophia?

Sophia is the latest humanoid robot with the most advanced creation of robotics. The founder of Hanson Robotics and the company's chief Executive Officer, Dr David Hanson, created the humanoid 'Sophia'.

On April 19, 2015, Sophia the humanoid was activated and was brought for a public appearance in March 2016 for the first time.

### 2. How Sophia Got Developed Her Brain

Chief scientist of Hanson Robotics and CTO Ben Goertzel said that Sophia is a sophisticated mixture of software called Chatbot software and robotics to build some facetious response, it doesn't have that kind of human intelligence. Rather than being human, Sophia is much like a user interface that can be coded and programmed to run differently in different conditions. Generally, the configuration done for Sophia's software can be divided into three parts:

*Software Consists of Chatbot Application.*

While interacting with people, she runs a dialogue system whenever required, where she can look towards people, observe what they talk about and then, depending on that, she chooses the prewritten sentences to respond.

*She Includes Reciting Speech robot.*

Whatever Sophia speaks can be preloaded in her brain, and then, to match facial

## Emotion 3D's in-cabin monitoring software is setting new standards in driving safety

By Ashish James

Goal According to the World Health Organisation, more than 1.35 million people die each year in road accidents, almost all of which (94%\*) are caused by human error (according to NHTSA). While human error can be attributed to various things, it is estimated that a significant number of these cases can be traced back to the driver being distracted, drowsy or fatigued. Over the past few years, car manufacturers have been adopting advanced technology to increase safety standards. Most new cars now have some form of Advanced Driver Assistance Systems (ADAS) on board which greatly enhance both safety and driving experience. While these systems are aware of their surroundings, many of these technologies are blind to a crucial variable in the equation: the occupants in the car. Solution This is where emotion3D comes in. Based in Vienna, Austria, the company aims to create a new level of driving safety, emotion3D creates AI-powered software for 3D environment perception for in-cabin monitoring. Emotion3D's software is used by several leading OEMs and Tier-1 suppliers in the automotive industry. And almost all their projects are powered by Arm-based CPUs — for example, the Arm Cortex-A53 and Cortex-A57, some of the world's most widely used processors for high-performance processing. AI powered software for real time analysis Using comprehensive computer vision and machine learning (ML), emotion3D's software analyzes the feed from cameras



