DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

# PROJECT PROPOSAL

## 1. Project Title: - AI Sentinel: Transformative Deep Learning Technologies for Next-Gen Driver Vigilance in Revolutionizing Road Safety

## 2. Project Scope: -

Drowsiness is a serious concern when driving and can cause accidents because it impairs the elements of human performance that are critical to safe driving: slower reaction time, reduced vigilance, deficits in information processing.

Existing drowsiness detection methods include:

Carnegie-Mellon Research Institute:

PERCLOS SystemsPERCLOS (percentage closure) is defined as the measurement of the percentage of time the pupils of the eyes are 80% or more occluded over a specified time interval. It has been found that PERCLOS is a reliable measure in detecting drowsiness.

Head position metrics:

Systems have been devised such that the head position of the driver is detected and when the head leaves the headrest past a certain threshold percentage, the system alerts the driver.

## 3. Requirements: -

* Hardware Requirements

1. Processor : Intel Core i3 or above
2. RAM : 8 GB RAM or more
3. Hard Disk : 100 GB
4. Web cam / In-built laptop camera

* Software Requirements

1. Anaconda Navigator

2. Jupyter Notebook

3. Python 3

4. Windows/ linux/ Mac OS

**STUDENTS DETAILS**

|  |  |  |
| --- | --- | --- |
| **Name** | **UID** | **Signature** |
| Hari Om Singh Himansh Rajput Pranab Sharma Vivek Kumar | 21BCS8441  21BCS10625  21BCS8942  21BCS8572 |  |

**APPROVAL AND AUTHORITY TO PROCEED**

We approve the project as described above, and authorize the team to proceed.

|  |  |  |
| --- | --- | --- |
| **Name** | **Title** | **Signature**  **(With Date)** |
|  |  |  |