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Mini Project - Synopsis on

“ DROWSINESS DETECTION “

Presented By,

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About The Project (Description)

- A computer vision system that can automatically detect students drowsiness in a real-time video stream.
- It plays an alarm if the student appears to be drowsy.
- This detection technology aims to help educators intervene early when students are struggling to stay alert , ensuring better performance in online learning environments.

Motivation (Reasons for Choosing the Topic)

Our project, " Drowsiness Detection for Online Classes," addresses a pressing issue affecting online learners. Key motivations include:

- Improved academic performance through enhanced focus.
- Reduced distractions and increased engagement.
- Enhanced student safety, preventing accidents from excessive sleepiness.
- Personalized alerts promote self-awareness and time management.
- Boosts productivity and reduces procrastination.
- Fosters a healthy learning environment, mitigating sleep deprivation's negative impacts.

Problem Definition

- Problem statement : This can be used by students who tend to attend online classes for a longer period of time that may lead to distraction caused due to drowsiness.

Tools and Technology

Tools:

- OpenCV (Computer Vision Library).
- Python (Programming Language).
- Image Processing Libraries .

Domain:

- Image Processing.
- Artificial Intelligence (AI).
- Human-Computer Interaction (HCI).

Expected Outcomes

Implementation of drowsiness detection with Python and OpenCV was done which includes the following steps:

- Successful runtime capturing of video with camera.
- Successful detection of face followed by detection of eye.
- If closure of eye for successive frames were detected, then it is classified as drowsy condition else it is regarded as normal blink.
- In this implementation during the drowsy state the eye is not surrounded by circle or it is not detected.

Thank You