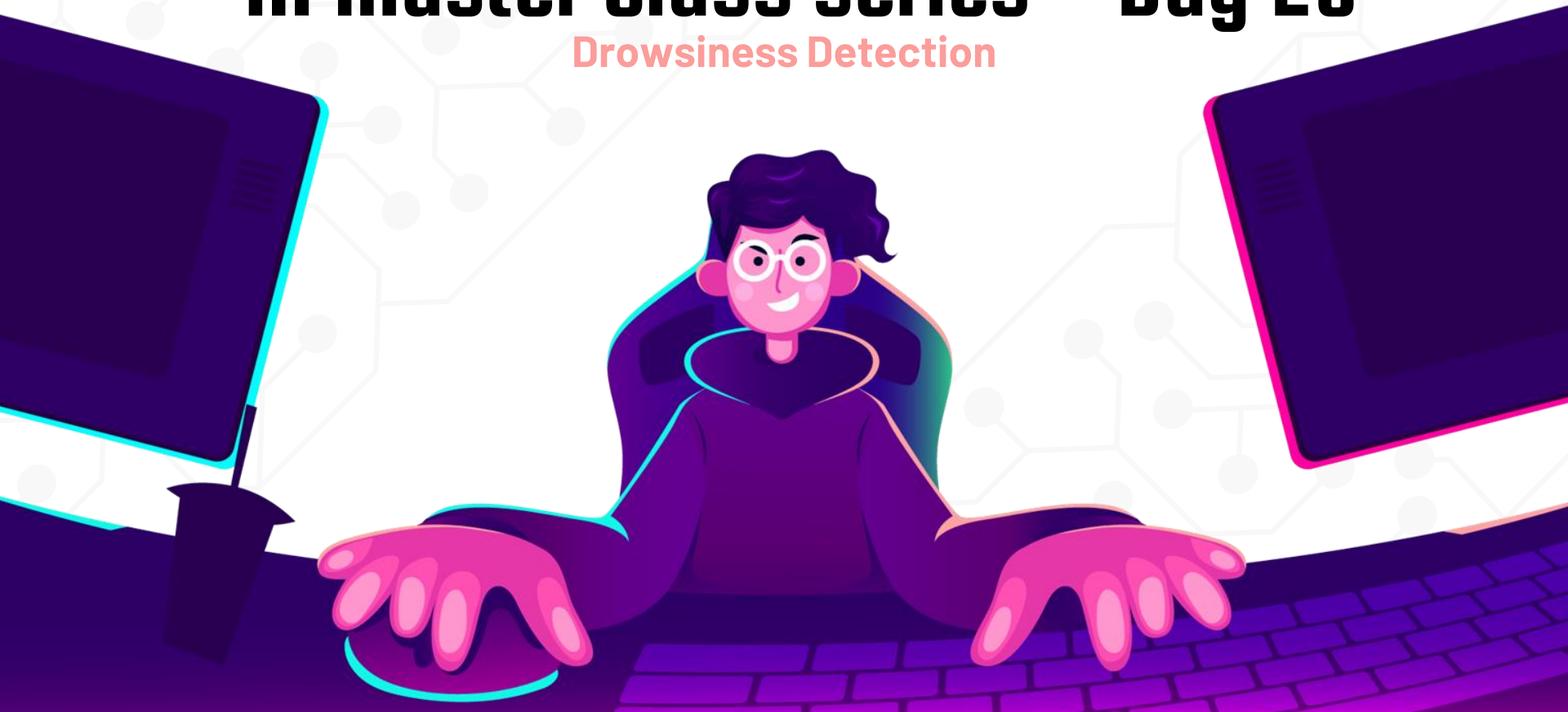
PANTECH SOLUTIONS®
Technology Beyond the Dreams

AI Master Class series – Day 20

Drowsiness Detection



Day-20 Agenda.

01.

Drowsiness Detection

Drowsiness detection & Applications

02.

68-Landmark predictor

Dlib library

03.

Workflow

Drowsiness detection process

04.

Real-time Drowsiness detection

05.

Q & A

Drowsiness Detection.

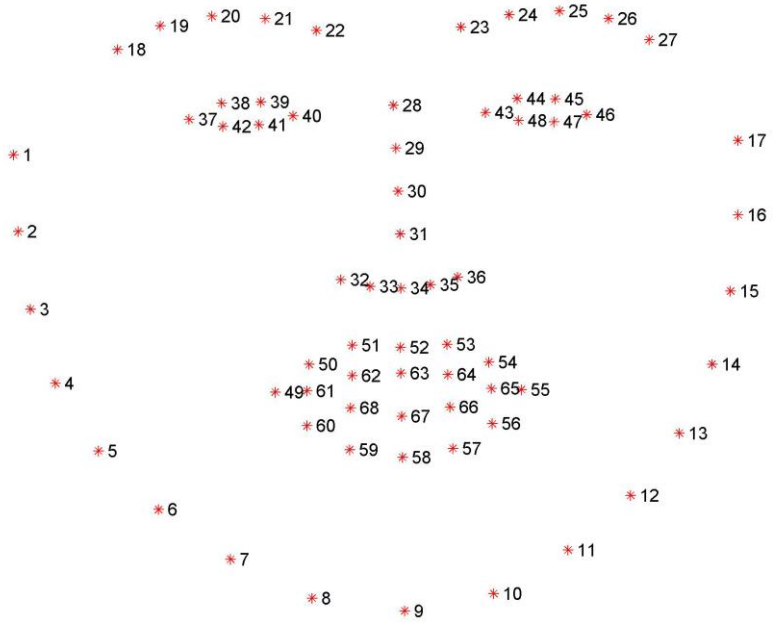
- Drowsiness refers to feeling abnormally sleepy during the day. People who are drowsy may fall asleep in inappropriate situations or at inappropriate times.

- Driver drowsiness detection is a car safety technology which helps prevent accidents caused by the driver getting drowsy. Various studies have suggested that around 20% of all road accidents are fatigue-related, up to 50% on certain roads.

dlib's facial landmark detector.

- The pre-trained facial landmark detector inside the dlib library is used to estimate the location of 68 (x, y)-coordinates that map to facial structures on the face.
- Facial landmarks are used for localizing and representing salient regions or facial parts of the person's face, such as:

Nose
Jaws
Left eye
Right eye
Left eyebrow
Mouth
Right eyebrow

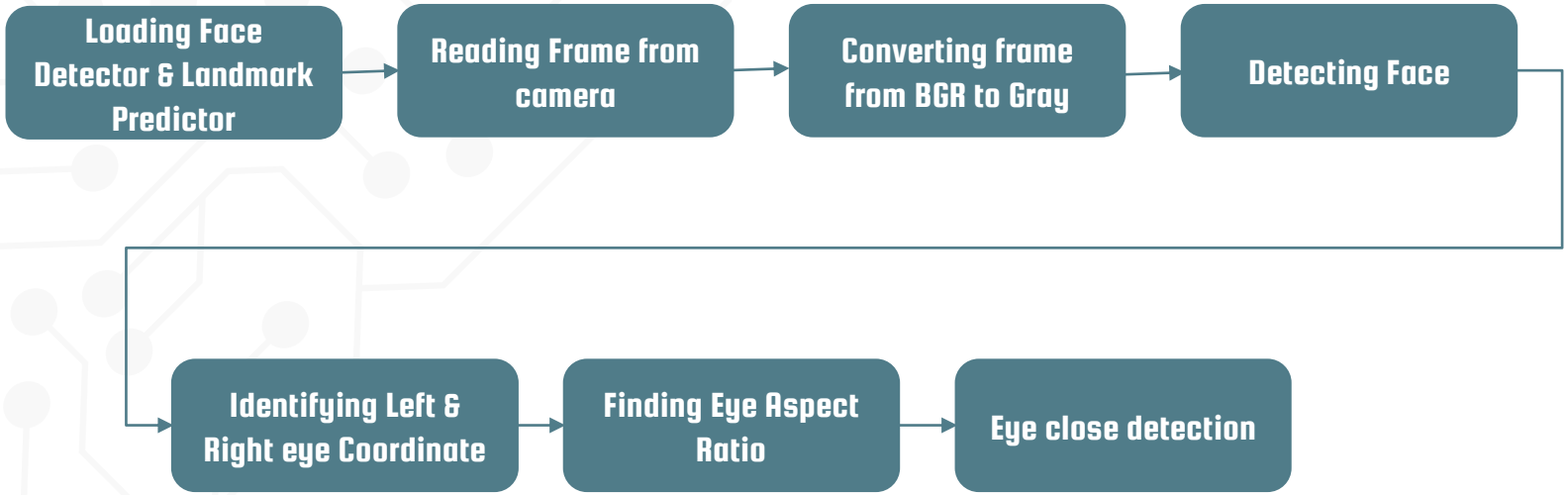


dlib's facial landmark detector.

The Locations of the Facial Parts are as follows:

- The left eye is accessed with points [42, 47].
- The mouth is accessed through points [48, 67].
- The left eyebrow is accessed through points [22, 26].
- The nose is accessed using points [27, 34].
- The right eyebrow is accessed through points [17, 21].
- The right eye is accessed using points [36, 41].
- And the jaw is accessed via points [0, 16].

Workflow of Drowsiness Detection.



Thanks!

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Tomorrow session

Road Sign Recognition