AI-based Attentiveness Monitoring System

Team Name: HackVerse

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Problem Statement

Students often get distracted during lectures (mobiles, side talk, looking away). Teachers cannot track the attentiveness of every student in real-time. No automated system exists to measure focus levels in classrooms.

Proposed Solution

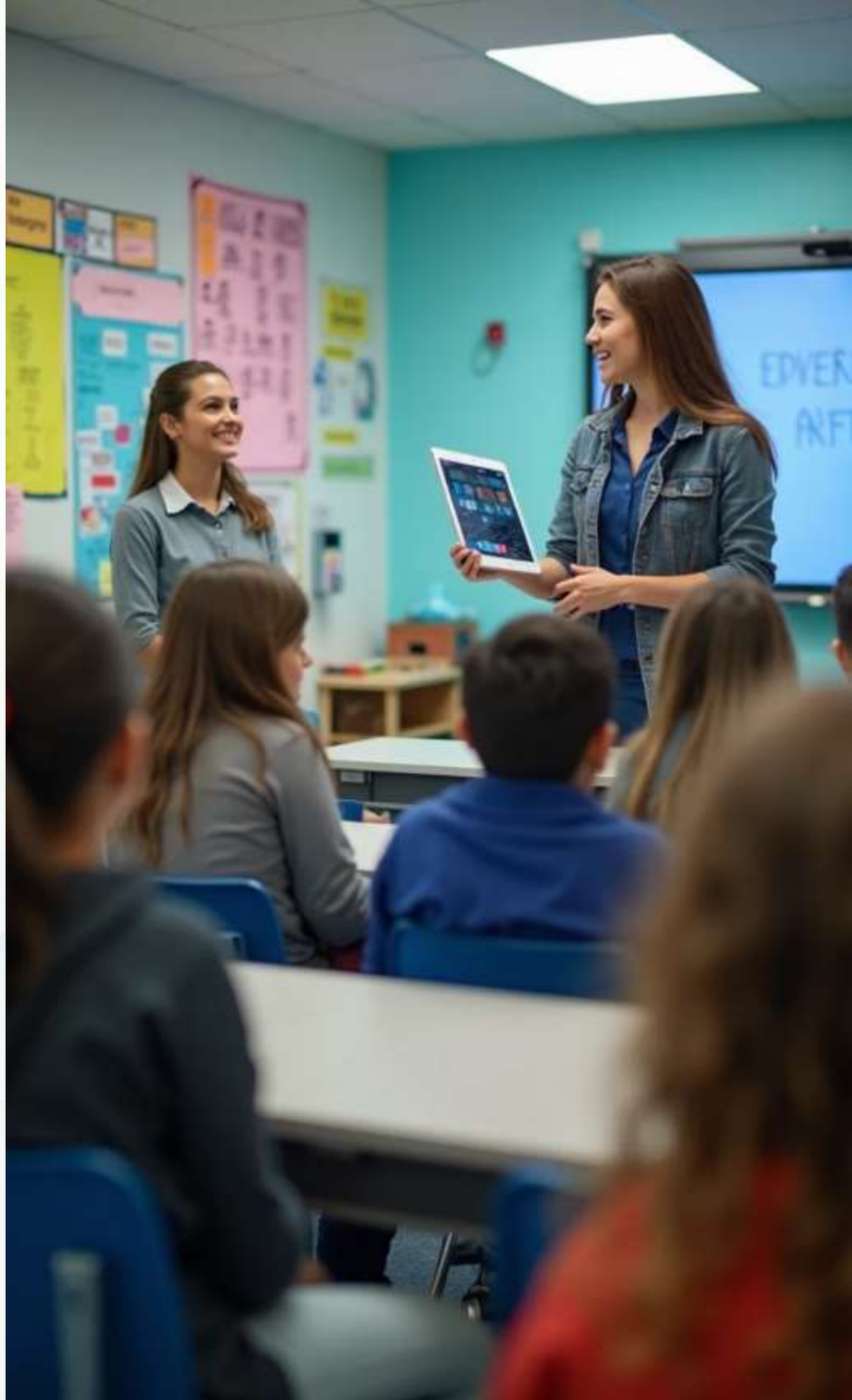
Develop a system that uses AI + Computer Vision to monitor attentiveness:

Detect face & eye direction using a webcam to check focus.

Generate attentiveness score (%) and session reports.

Why This Matters

Helps teachers understand student engagement. Provides data-driven insights for improving teaching methods. Encourages students to stay focused in class. Can be scaled for online/offline classrooms.



Approach (Step-by-Step)

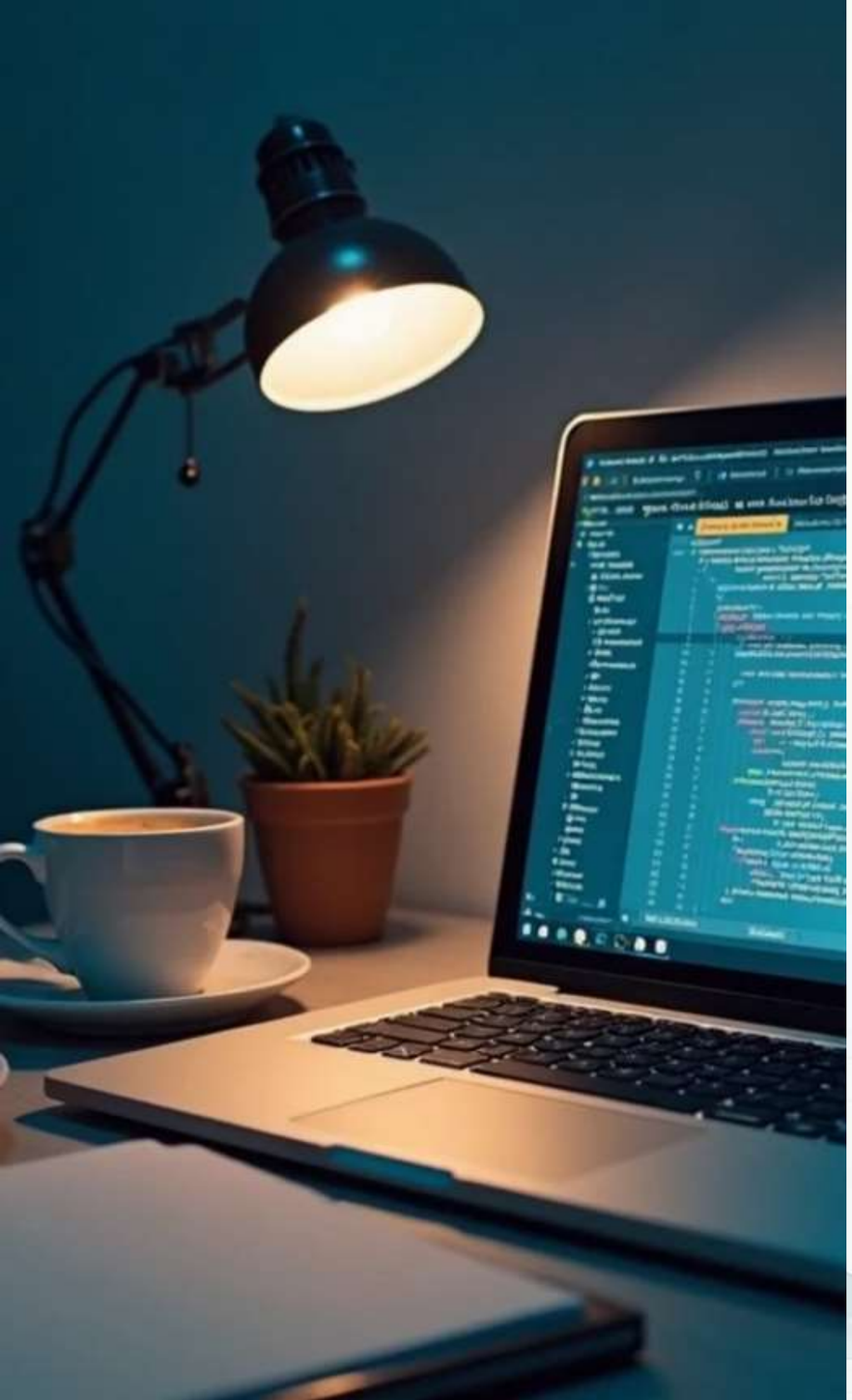
Detect face & eyes using OpenCV.

Check if eyes are open and looking forward → attentive.

Count distracted vs. attentive time.

Calculate attentiveness percentage.

Store data in CSV and show graphs.

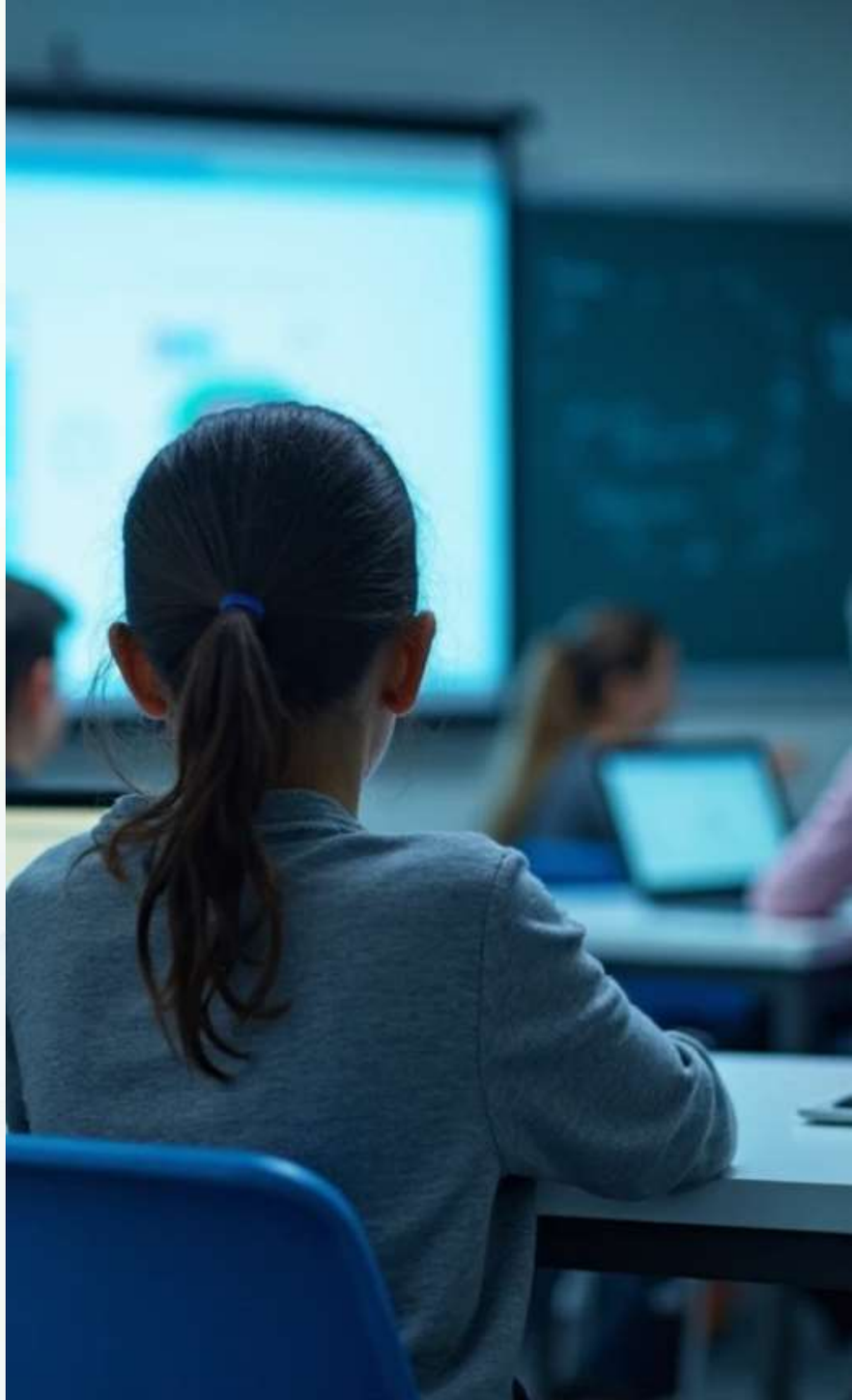


Key Features

1. *Real-time face & eye tracking.*
2. *Continuous monitoring of attentiveness.*
3. *Attentiveness percentage calculation.*
4. *Data saved for analysis.*
5. *Lightweight, no heavy training needed.*

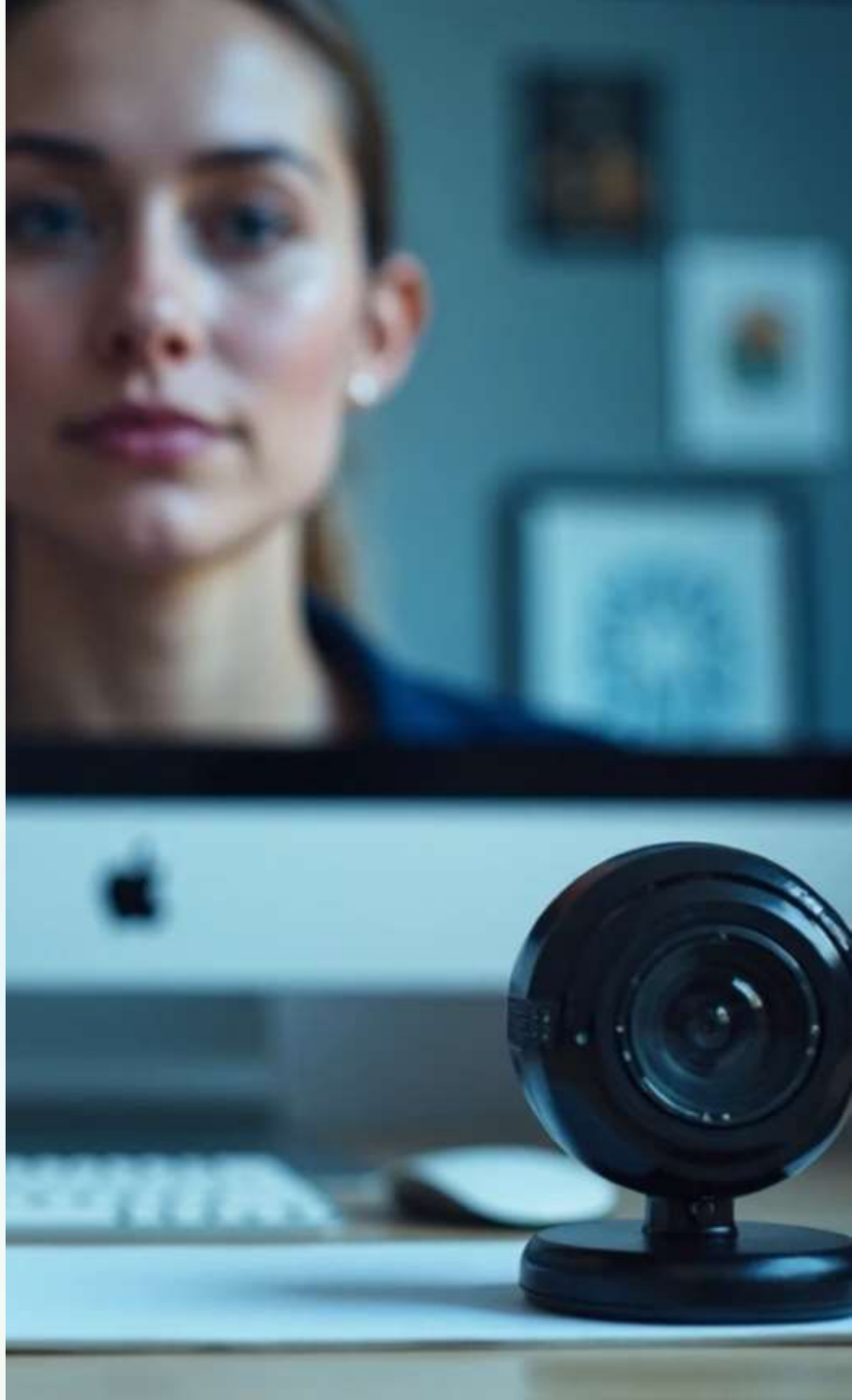
Tech Stack Used

- **Python → programming language**
- **OpenCV → face & eye detection (Haar Cascades)**
- **Pandas → storing attentiveness logs**
- **Matplotlib → simple visualization of attentiveness %**
- **Jupyter Notebook (Anaconda) → development environment**



Expected Outcomes

1. A working AI prototype for monitoring attentiveness.
2. Real-time detection of student focus.
3. Graphs/reports for teacher's analysis.
4. Foundation for future integration with smart classrooms.



Conclusion

Our project solves the real challenge of student distraction. Built a lightweight and effective AI tool in just 10 days. Future scope → Combine with attendance & advanced engagement analytics.

Thank You