

(54) Title of the invention : Posture Recognition Software Using Real-Time Computer Vision and Wearable Sensor Fusion

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(71)**Name of Applicant :**  
**1)Rahul Kumar Singh**  
 Address of Applicant :Patna. Bihar -----  
**2)Suman**  
**3)Dr. Manish Kumar**  
**4)Dr. Vandna**  
**5)Dr. Preeti Rathi**  
**6)Harishchandra Prasad**  
**Name of Applicant : NA**  
**Address of Applicant : NA**

(72)**Name of Inventor :**  
**1)Suman**  
 Address of Applicant :Department of CSE, School of Engineering and Technology, K. R. Mangalam University, Gurugram, Haryana, India, 122103. -----  
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**2)Dr. Manish Kumar**  
 Address of Applicant :Department of CSE, School of Engineering and Technology, K. R. Mangalam University, Gurugram, Haryana, India, 122103. -----  
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**3)Dr. Vandna**  
 Address of Applicant :Department of CSE, School of Engineering and Technology, K. R. Mangalam University, Gurugram, Haryana, India, 122103. -----  
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**4)Dr. Preeti Rathi**  
 Address of Applicant :Department of CSE, School of Engineering and Technology, K. R. Mangalam University, Gurugram, Haryana, India, 122103. -----  
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**5)Harishchandra Prasad**  
 Address of Applicant :School Of Information & Communication Technology, Gautam Buddha University, Greater Noida, Uttar Pradesh, India, 201312. -----  
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**6)Rahul Kumar Singh**  
 Address of Applicant :Department of CSE, School of Engineering and Technology, Noida International University, Greater Noida, Uttar Pradesh, India, 203201. Greater Noida -----

(57) Abstract :  
 The invention provides a real-time posture recognition system that combines computer vision and wearable sensors to detect and correct human posture. Using keypoint detection from video input and motion data from IMU sensors, the system performs sensor fusion to classify posture accurately. On detecting incorrect posture, it delivers immediate feedback through visual, audio, or haptic alerts. The system is designed for low-cost deployment using standard webcams and works reliably under varied conditions, including poor lighting or occlusions. It supports continuous monitoring, posture history tracking, and personalized feedback. Applicable in healthcare, workplaces, fitness, and elderly care, the invention promotes better posture and preventive health management.

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