

# IoT-Based Smart Sleep Tracker with Personalized Recommendations

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**Abstract:** *In today's fast-paced world, sleep quality plays a crucial role in maintaining overall health and well-being. This paper presents the design and development of an IoT-based smart sleep tracker system integrated with personalized recommendations. The proposed system monitors various physiological parameters such as body movement, heart rate, and ambient room conditions to evaluate sleep patterns. The collected data is processed through an AI-driven analytics layer to provide actionable recommendations tailored to individual users. The system architecture encompasses hardware sensors, data acquisition modules, cloud-based data storage, and a user-friendly mobile interface. The results demonstrate the effectiveness of the system in identifying sleep disturbances and offering insightful guidance to enhance sleep quality.*

**Keywords:** IoT, Sleep Tracking, Personalized Recommendations, AI Analytics, Smart Health, Wearable Devices

