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### Smart Systems for Patient Monitoring

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KEYWORDS	ABSTRACT
Smart Patient Monitoring, Internet of Things (IoT).	<p>The rapid advancement of healthcare technology has led to the development of smart patient monitoring systems, utilizing the Internet of Things (IoT) to enhance real-time health tracking. These systems integrate biosensors, artificial intelligence (AI), cloud computing, and big data analytics to improve patient care, particularly for individuals with chronic conditions and critical care needs. IoT-enabled monitoring devices continuously measure vital health parameters, such as heart rate, blood pressure, oxygen saturation, and electrocardiogram (ECG) readings, transmitting real-time data to cloud-based platforms. AI-driven algorithms analyze this data to identify patterns, detect anomalies, and support clinical decision-making, enabling early intervention and personalized treatment plans. Key components of these systems include wearable and implantable biosensors, AI and machine learning integration, edge computing for real-time processing, 5G and cloud connectivity, and blockchain technology for data security. These innovations facilitate applications such as remote patient monitoring (RPM), ICU monitoring, elderly care, and maternal and neonatal health tracking, significantly enhancing healthcare accessibility and efficiency. Despite their benefits, challenges such as data security concerns, interoperability issues, high implementation costs, and regulatory compliance requirements hinder widespread adoption.</p>
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