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(57) Abstract :
Recent days have seen a steep rise in the adoption of IoT and wearables for smart healthcare systems and intelligent automatic diagnostic applications. Research studies show that the market of wearable device can increase to 430 million by 2023. Proposed is an IoT Based Intelligent Fetal Healthcare Monitoring Device for Pregnant Woman. The wearable waist band is built with ECG sensors, blood pressure sensors, temperature sensor and oxygen SpO2 sensor to continuously monitor the health and wellbeing of the fetus as well as the pregnant woman. It has reported in literature that nearly 75% of maternal deaths are due to improper diagnosis and monitoring of pregnant woman during prenatal and antenatal periods. Doppler device which consists of sensors and actuators are capable to capture the vital fetal parameters such as heartrate, weight and Crown Rump Length (CRL) from as early as 9th week of the fetus. The monitored data are classified using Convolutional Neural Networks (CNN) that indicates the chances of high risk pregnancies and health complications if fetus. Maternal parameters such as Uterine Contractions, Uterine Tonus Activity, Fetal Physiological Dynamics are also monitored and if there is any irregular or abnormal fluctuations, the healthcare provider is alerted for emergency diagnosis and healthcare.

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