SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY

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Puttur -517583, Tirupathi District, A.P. (India)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

BRANCH: CSE/CSM/CIC/CAD/CCC/CAI-R20

FINAL YEAR PROJECT DETAILS- (ACY 2025-26)

SECTION NO: CAD-2 BATCH NO-9

PROJECT TITLE: Intelligent Infant Health Predictor with Personalized AI Guidance

ABSTRACT:

Infant mortality continues to be a pressing concern in pediatric healthcare, particularly for children under the age of five. Timely identification of high-risk infants is critical for implementing preventive interventions and improving survival outcomes. This paper presents a Machine Learning and AI-powered framework for predicting infant mortality risk and generating personalized survival plans. The system leverages key maternal and infant health indicators, including birth weight, maternal age, immunization status, nutrition score, socioeconomic factors, and prenatal care visits.A supervised machine learning model is trained on structured health datasets to classify infants into low- and high-risk categories, providing an accurate quantitative risk assessment. For high-risk cases, the framework integrates Hugging Face GPT-based AI models to generate detailed, actionable survival plans. These AI-generated recommendations include nutritional guidance, preventive care measures, follow-up schedules, early childhood development activities, physical activity guidelines.The system features a user-friendly web interface, enabling healthcare professionals and caregivers to input data and receive real-time, personalized recommendations. Experimental results demonstrate that the integrated ML-AI approach achieves high predictive accuracy while delivering structured, AI-generated survival plans that support proactive pediatric care. This framework exemplifies the potential of combining machine learning and AI to bridge data-driven risk assessment with practical, individualized child healthcare interventions.

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PROJECT GUIDE **PROJECT COORDINATOR** **HOD**