



# MALLAREDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS INSTITUTION – UGC, GOVT. OF INDIA)

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## DEPARTMENT OF COMPUTATIONAL INTELLIGENCE

### III YEAR B. TECH II SEM

**COURSE:** APPLICATION DEVELOPMENT - II

**COURSE CODE:** R22A6693

**SECTION:** CSE (AIML) - A

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## ABSTRACT

**Title:** FitFusion: Smart Workout, Diet & Motivation App

**FitFusion** is an AI-powered fitness application designed to deliver personalized workout plans, tailored diet recommendations, and daily motivational content based on user data such as weight, height, age, fitness goals and health issues. Unlike existing platforms that often focus on isolated aspects of fitness, FitFusion integrates these key elements cohesively, offering a holistic approach to health and wellness. By leveraging AI-driven algorithms, the app dynamically adjusts workout and diet plans in real-time based on user progress and preferences. The Smart Progress Dashboard, powered by predictive analytics, provides performance insights, while daily motivational content ensures sustained user engagement and mental wellness support.

The project utilizes advanced technologies, including Machine Learning (Linear Regression, LSTM) for fitness predictions, Collaborative Filtering for personalized recommendations, Genetic Algorithms for diet optimization, and NLP for generating motivational content. The backend is built with Python (Django/Flask), and the frontend uses React.js to deliver an interactive and user-friendly experience. FitFusion aims to bridge the gap between fragmented fitness tools and create a smarter, more adaptable fitness journey for users.

### Student Batch Details:

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