

ClassMate AI: AI-Based Smart Classroom

Prof. Sachin Chavan¹, Amisha Kamable², Siddhi Malusare³, Dhanashri Kalap⁴

Professor, Department of Computer Engineering¹

Student, Department of Computer Engineering^{2,3,4}

M.G.M. College of Engineering and Technology, Navi Mumbai, India

Abstract: *ClassMate_AI is an intelligent classroom management system designed to transform the traditional learning environment into an AI-powered digital ecosystem. This system automates assignment analysis, provides AI-driven feedback, monitors attendance, and enables real-time communication between teachers and students. With role-based dashboards, voice-enabled chatbot, and personalized academic insights, the platform enhances student engagement and reduces teacher workload. The paper discusses the system architecture, implementation strategies, and integration of Natural Language Processing (NLP) and Machine Learning models that make ClassMate_AI a smart and scalable education solution.*

Keywords: Classroom Management System, AI in Education, Assignment Analysis, AI-Driven Feedback, Attendance Monitoring, Real-Time Communication, Role-Based Dashboards, Voice-Enabled Chatbot, Personalized Academic Insights, Student Engagement, Teacher Workload Reduction, System Architecture, Implementation Strategy, Natural Language Processing (NLP), Machine Learning (ML), Smart Education, Scalable Solutions

