MALLA REDDY COLLEGE
OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS INSTITUTION - UGC, GOVT. OF INDIA)
Affiliated to JNTUH; Approved by AICTE, NBA-Tier 1 & NAAC with A-GRADE | ISO 9001:2015

DEPARTMENT OF COMPUTATIONAL INTELLIGENCE

III YEAR CSE - AIML II SEM

COURSE: APPLICATION DEVELOPMENT - 2 **COURSE CODE: R22A66933**

XAI Chart and Graph Detection, Classification, and Insights Generation.

Charts and graphs are widely used in documents, reports, and presentations to convey complex information visually. However, manually extracting insights from these visualizations can be time-consuming and labor-intensive. This project introduces an innovative XAI-powered system that automates the detection, classification, and insights generation from charts and graphs within documents. By leveraging advanced deep learning techniques, including YOLOv11 for efficient and accurate detection and BERT for generating meaningful insights, the system ensures high performance in analyzing visual data. The user-friendly interface allows users to easily upload documents, select visualizations, and generate insights in various formats such as textual summaries, tables, and visual representations. This approach has the potential to transform how insights are derived from charts and graphs, offering faster, more accurate analysis and enabling more informed decision-making across industries and domains.

Keywords: Chart detection, XAI-powered analysis, Automation, Deep learning, Visual data extraction, Data insights.

Algorithm: YOLOv11, BERT.

Project Members:

T.C.S.S Praneeth - 22N31A66H7
Sri Harshitha NVNS - 22N31A66G8
Y. Sudheer. - 23N35A6620

Signature of the Guide **Project Coordinator** **HOD**