



CANTILEVER AIML PROTERNSHIP 2025

ABSTRACT

Project Title:

HANDWRITTEN DIGIT RECOGNITION(MNIST)

Team Details:

S.No	Name	Roll No
1	MD.AYAAN	22R11A6770
2	CH.CHAKRAVARTHI	22R11A6756
3	U.MADHAN	23R11A62J6

Abstract:

The handwritten digit recognition project employs Artificial Intelligence and Machine Learning (AIML) to create a robust system for identifying and classifying handwritten digits (0-9) from digital images. By utilizing the MNIST dataset, a standard benchmark containing 28x28 grayscale images of handwritten digits, the project implements advanced techniques such as Convolutional Neural Networks (CNNs) or other supervised learning algorithms. The process involves data preprocessing (e.g., normalization, noise reduction), feature extraction, model training, and performance evaluation to achieve high accuracy across diverse handwriting styles. The system aims to address challenges like variability in writing patterns, noise, and image distortions. Applications include automated postal code recognition, bank check processing, and digit-based authentication systems. The project emphasizes model optimization, hyperparameter tuning, and validation to ensure scalability and real-world applicability.

Keywords:

Handwritten Digit Recognition, AI, Machine Learning, CNNs, MNIST Dataset, Image Classification, Deep Learning, Data Preprocessing, Model Training, Digit Classification