

Proposal : EE5252 Machine Learning Project

Group Number: 52	
Name and Index Number of the Students:	
Student 1: Name: Dinojan V. Registration Number: EG/2021/4487 Student Email: dinojv21@gmail.com	Student 2: Name: Jackshan Venujan G.S Registration Number: EG/2021/4566 Student Email: venuofficial007@gmail.com
Project Title: Room Occupancy Detection.	
Project Description (Provide a short description of your project): This project focuses on using IoT sensor data to predict room occupancy, which is essential for optimizing energy usage and enhancing building management. The dataset includes environmental features like temperature, humidity, light levels, and CO2 concentration, which are key indicators of whether a room is occupied. We will implement two machine learning algorithms Logistic Regression and Decision Trees to classify room occupancy. Logistic Regression offers a simple, interpretable model, while Decision Trees can capture more complex relationships. The performance of these models will be evaluated using accuracy, precision, recall, and F1-score to determine the most effective approach for this task. This project highlights the practical application of machine learning in smart environments, aiming to contribute to more efficient and responsive IoT systems.	
Dataset Link: https: Room Occupancy detection data (IoT sensor) (kaggle.com)	
Original Number of Features in the Dataset: 5	
Target Variable (For Supervised Learning): Occupancy	
Type of the Problem You are Going to Solve - Supervised-Classification	
Algorithms Selected:	
Algorithm 01: <ul style="list-style-type: none">• Logistic Regression	Algorithm 02: <ul style="list-style-type: none">• Decision Trees