

# Global Innovation Artificial Intelligence Hackathon

## Problem Statement:

Illegal logging is a major environmental issue that has a significant impact on forests and their ecosystems. The current methods of detecting illegal logging activities are often time-consuming and require significant resources. Therefore, there is a need for an efficient and effective method to detect illegal logging activities in forests. One potential solution is to use environment sound classification to detect the sound of logging activities. Therefore, the problem statement is to find a suitable dataset for forest sound classification that can be used to develop an efficient and effective method for detecting illegal logging activities in forests.

## Abstract:

Illegal logging poses a grave threat to forests and their ecosystems, necessitating the development of efficient methods to detect such activities. Traditional approaches to identifying illegal logging are often resource-intensive and time-consuming, underscoring the need for innovative solutions. This paper proposes the use of environmental sound classification as a potential method to detect the distinctive sounds associated with logging activities. To facilitate the development of an effective and efficient detection system, a suitable dataset for forest sound classification is required.

This study aims to identify and evaluate existing datasets that can be utilized for forest sound classification, specifically targeting the detection of illegal logging activities. The dataset selection process involves considering several crucial factors, including diversity of forest types, geographical coverage, audio quality, and appropriate labeling of sound samples. Additionally, the dataset should encompass a comprehensive range of sounds associated with both legal and illegal logging, ensuring the development of a robust and accurate classification model.

Several potential datasets for forest sound classification are analyzed, including publicly available datasets and those developed by research organizations, environmental agencies, and conservation groups. The evaluation considers the dataset size, audio quality, metadata availability, and the presence of labeled samples related to logging activities.

Based on the evaluation, this paper recommends a suitable dataset that meets the requirements for forest sound classification. The chosen dataset will serve as a valuable resource for researchers and developers aiming to design an efficient and effective method to detect illegal logging activities in forests. The dataset will enable the development of machine learning models that can accurately classify sounds associated with logging, contributing to the conservation and protection of forests and their ecosystems.

Block Diagram:

