Project Initialization and Planning Phase

Date	15 March 2024
Team ID	740139
Project Title	Acoustic Fire Extinguishing prediction
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

The proposal report aims to predict the effectiveness of acoustic fire extinguishing methods using machine learning, enhancing fire safety and prevention techniques. Key features include a machine learning-based prediction model and real-time decision-making support.

Project Overview	
Objective	The primary objective is to innovate fire extinguishing methods by implementing acoustic wave technology, ensuring safer and more environmentally friendly fire suppression techniques
Scope	The project involves a comprehensive assessment and enhancement of fire extinguishing processes, incorporating acoustic wave technology for a more efficient and effective system.
Problem Statement	
Description	Current fire extinguishing methods can be inefficient, costly, and harmful to the environment. Acoustic wave technology offers a potential solution to these issues
Impact	Solving these issues will result in improved safety, reduced environmental impact, and potentially lower costs, contributing to better fire management and protection
Proposed Solution	
Approach	Utilizing acoustic wave technology and machine learning techniques to predict and effectively extinguish fires, creating a robust and adaptive fire suppression system.
Key Features	Development and implementation of predictive models for acoustic wave- based fire extinguishing. - Real-time decision-making capabilities.

Resource Requirements

Resource Type	Description	Specification/Allocation
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4 GPU
Memory	RAM specifications	16GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	TensorFlow, PyTorch
Libraries	Additional libraries	Scikit-learn, pandas, numpy, matplotlib, seaborn
Development Environment	IDE	Jupyter Notebook, pycharm
Data		
Data	Source, size, format	Research papers, industrial datasets, CSV, JSON