

**Project Proposal**

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**Submit To:**

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**Course:**

CMPE-332L -Database Systems

**Semester:**

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**University of Engineering & Technology, Lahore**



**Department of Computer Engineering**

**Language:**

* Python

**Environment:**

* Google Colab

**Project Statement:**

London Fire Brigade Service Calls Analysis

**Description:**

The goal of this project is to develop a machine learning model to predict the incident group based on London Fire Brigade service calls data. The model will use a Gradient Boosting Classifier to classify incidents into different groups, contributing to better resource allocation and incident response management.

**Dataset Name:**

London Fire Brigade Service Calls Dataset

**Dataset Link:**

[BigQuery Public Dataset: London Fire Brigade Service Calls](https://console.cloud.google.com/bigquery?p=bigquery-public-data&d=london_fire_brigade&t=fire_brigade_service_calls)

**Features:**

1. **Borough Code:**
   * Represents the borough where the incident occurred.
2. **Date in Seconds:**
   * A numerical representation of the date in seconds, allowing the model to capture temporal patterns.
3. **Hour of Call:**
   * Indicates the hour of the call, providing information about the time of the incident.

These features will be used to train the Gradient Boosting Classifier for incident group prediction.

**Research Questions:**

1. **Incidents Prediction:**
   * Can we predict the incident group based on the provided features such as borough code, date in seconds, and hour of the call?
2. **Temporal Patterns:**
   * Are there specific temporal patterns in incident groups based on the hour of the call and the date in seconds?
3. **Borough Influence:**
   * How does the borough code influence the prediction of incident groups?