

# **SMOKER DETECTOR**

## **USING MOBILENET V3 MODEL**

PROJECT BY  
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**BE CSE III YEAR**

# PROBLEM STATEMENT :



- **Issue:** Violation of no-smoking regulations in critical areas like schools, transportation hubs, easily ignitable industries, and fireworks manufacturing units.
- **Risk:** Persistent non-compliance poses a significant risk, including the potential for major fire accidents and harm to individuals and property.
- **Concerns:** The need to address the challenge of enforcing no-smoking policies to ensure the safety and well-being of the community within these designated no-smoking zones.

# OBJECTIVES :

- Develop an AI model capable of real-time detection of smoking and non-smoking scenarios within images.
- Train and optimize the model to achieve a high level of accuracy in distinguishing between smoking and non-smoking situations to minimize True negative.

# Dataset:

## SOURCE OF DATASET

- The dataset used for our project is sourced from Kaggle, a renowned platform for data science and machine learning competitions.

## SHAPE OF DATASET

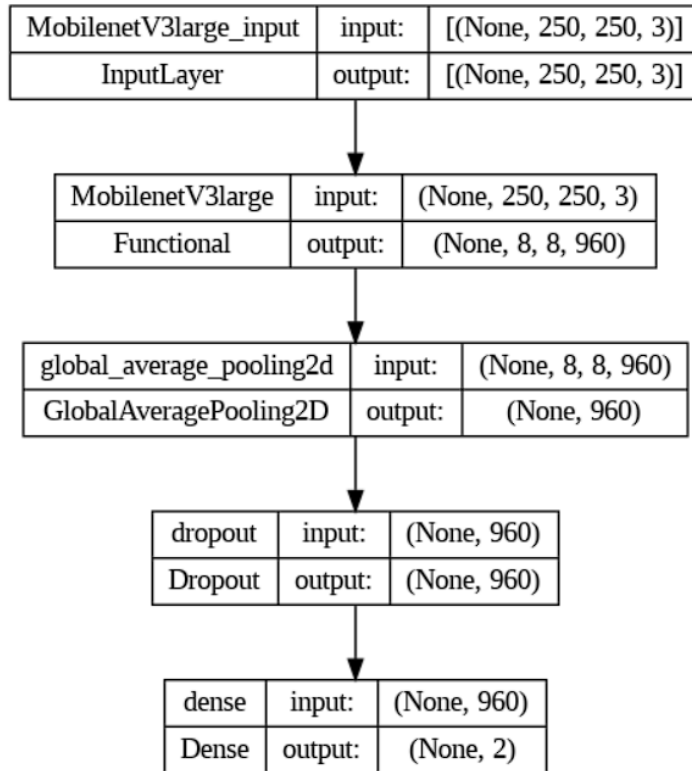
- The dataset consists of a total of 2000 images.
- Image Format: BGR (Blue-Green-Red), a common color format in computer vision applications.

## DATA DISTRIBUTION

- The dataset is evenly divided into two classes: 1000 images labeled as "Smoking."
- 1000 images labeled as "Not Smoking."
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# MODEL BUILDING :

## ARCHITECTURE



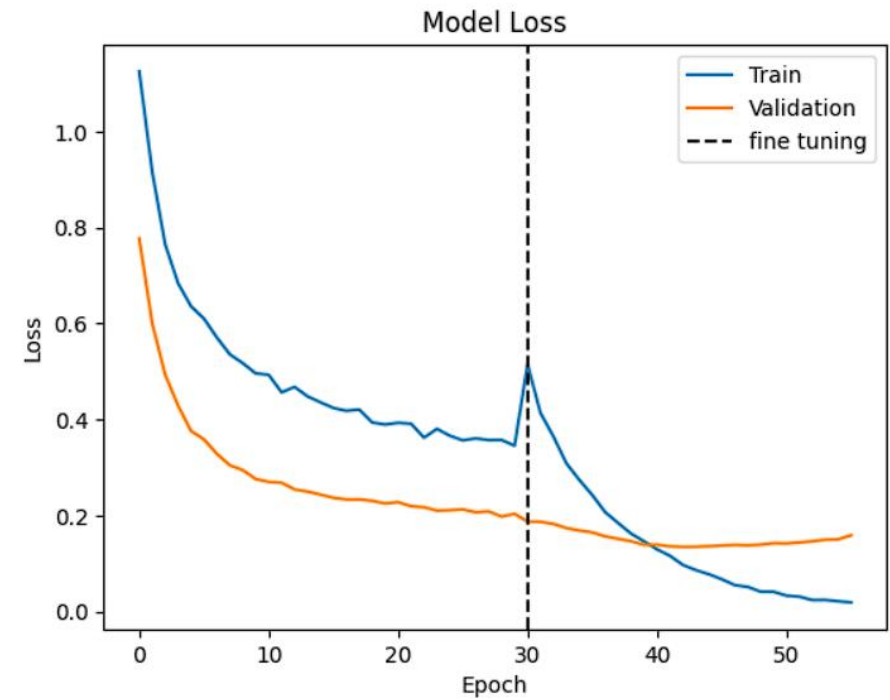
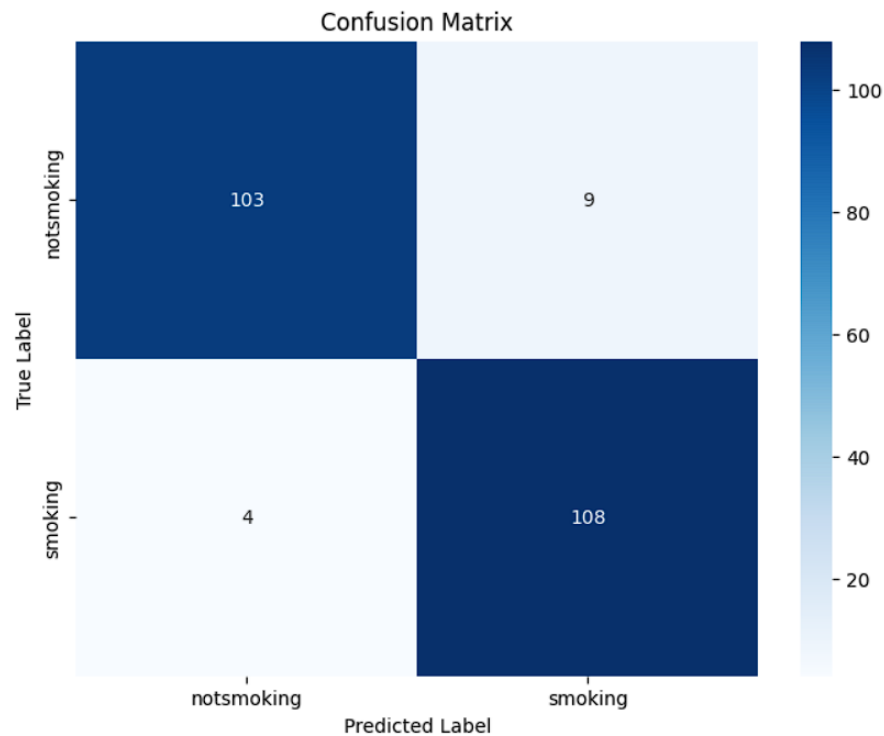
## PARAMETERS

- MoblieV3large model contains 157 default layers and 4 externally added layer .
- **loss** : sparse categorical crossentropy
- **Optimizer** : Adam
- **Learning rate** = 0.0001

# MODEL RESULT:

SMOKING IMAG : 112

NOT SMOKING IMG : 112



TRAINING ACCURACY : ~ 0.99

TRAINING LOSS : ~ 0.02

VALIDATION ACCURACY : ~ 0.94

VALIDATION LOSS : ~0.15

# LIMITATIONS:

- The dataset is primarily sourced from the American region. The model's performance may be impacted when applied to data from different regions, such as India.

THANK YOU