

# Employee Data Analysis using Excel



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# PROJECT TITLE

## Employee Performance Analysis using Excel

Employee performance analysis is a data-driven way to evaluate how employees are performing against company expectations and goals. It can help you make more informed decisions and improve your business. Here are some ways to analyze employee performance:

# AGENDA

1. Problem Statement
2. Project Overview
3. End Users
4. Our Solution and Proposition
5. Dataset Description
6. Modelling Approach
7. Results and Discussion
8. Conclusion



# PROBLEM STATEMENT

- Detection of face masks in public spaces has become critical for ensuring public health and safety.
- Traditional methods of manual monitoring are inefficient and prone to errors. An automated system for face mask detection is needed to enforce mask-wearing policies effectively.



# PROJECT OVERVIEW

- Our project aims to develop a CNN-based system for automatic face mask detection.
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- Leveraging deep learning techniques, we seek to accurately identify whether individuals are wearing masks in images or video streams.
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- The system will serve as a tool for authorities to monitor compliance with mask-wearing regulations in various settings.



# WHO ARE THE END USERS?

Health authorities

- Law enforcement agencies
- Business owners (e.g., retail stores, restaurants)
- Public transportation operators

# OUR SOLUTION AND ITS VALUE PROPOSITION



- We propose a CNN architecture trained on a dataset of labeled images containing people with and without masks. The model will be capable of real-time detection and can be deployed in various scenarios, including CCTV surveillance, mobile applications, and public kiosks. Our solution aims to provide a reliable and efficient method for enforcing mask-wearing policies and promoting public safety.

# Dataset Description

Employee dataset Kaggle

26 features

9 features

Emp id

Name-text

Rating-numeri

Performance-test

Gender-mBusiness unit-text

Business type-text



# THE "WOW" IN OUR SOLUTION



- Real-time detection capabilities
- High accuracy in identifying mask-wearing behavior
- Scalability for deployment in diverse environments
- Potential for integration with existing surveillance systems



# MODELLING

1. Convolutional Neural Network (CNN) Architecture:
  1. CNNs are ideal for image classification due to their ability to capture spatial dependencies.
  2. We've chosen a CNN architecture optimized for image classification tasks, ensuring efficient processing of input images.
2. Data Preprocessing:
  1. Prior to training, our dataset undergoes preprocessing steps.
  2. Techniques such as resizing, augmentation, and normalization are applied to ensure data quality and model
3. Training Process:
  1. The dataset is split into training, validation, and testing sets.
  2. We initiate the model parameters and select an optimization algorithm.
  3. Training iterations and batch sizes are adjusted to optimize model performance.

# RESULTS

Path of the image to be predicted: /content/without\_mask1.jpeg



```
1/1 [=====] - 0s 85ms/step  
[[0.33560058 0.950527  ]]  
1  
The person in the image is wearing a mask
```

Path of the image to be predicted: /content/without\_mask.jpeg



```
1/1 [=====] - 0s 31ms/step  
[[0.49614474 0.6601335  ]]  
1  
The person in the image is not wearing a mask
```

# conclusion

Our project successfully developed a Convolutional Neural Network (CNN)-based system for face mask detection. Through meticulous data preprocessing and model training, we achieved promising results in accurately identifying individuals wearing face masks.