loyee Data Analysis using Excel

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PROJECT TITLE

Employee Performance Analysis using Excel

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 inefficientand 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.Leveraging deep learning techniques, we seek to accurately identify whether individuals are wearing masks in images or video streams.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-text
Gender-f,m
Business 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

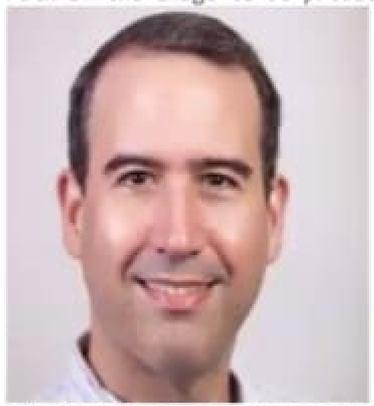
1.Convolutional Neural Network (CNN) Architecture:
    1.CNNs are ideal for image classification due to their ability to capture spatial dependencies.
    2. We've chosen a CNN architecture optimized for image classification tasks. ensuring efficient processing of input images.
2.Data Preprocessing:
  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 robustness.
3. Training Process:
  1.The dataset is split into training, validation, and testing sets.
  2. We initiate the model parameters and select anoptimization 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 65ms/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.