Final Project

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Project Title Enhancing Safety: Mask Wearing Detection with Convolutional Neural Networks

Agenda

In this presentation, we will explore the use of **Convolutional Neural Networks** for detecting mask wearing to enhance safety. We will discuss the challenges and opportunities in implementing this technology in various settings.



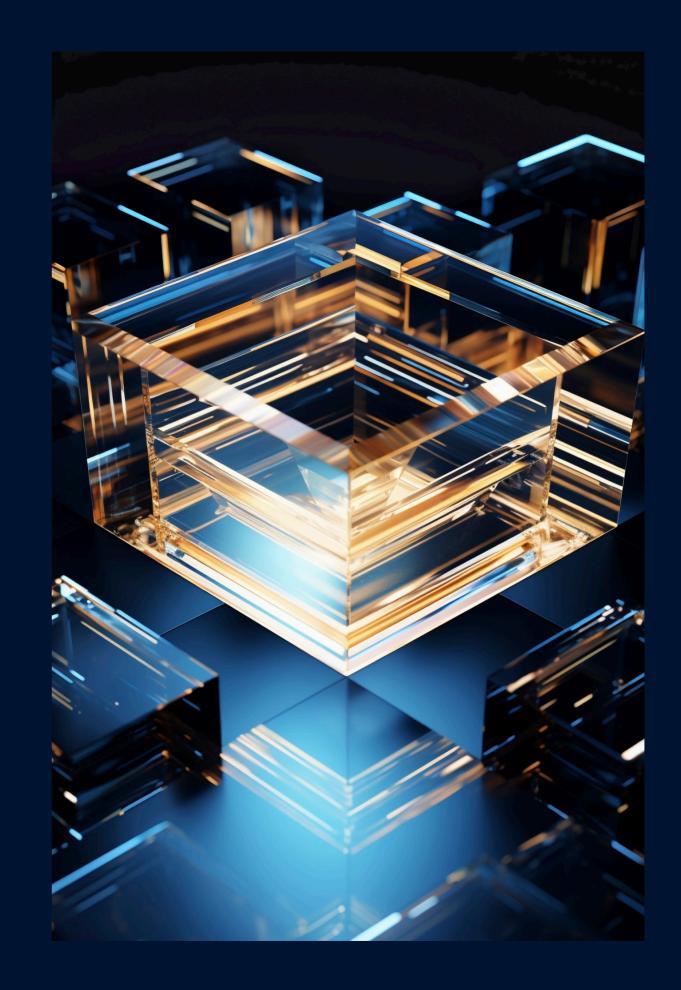
Problem Statement

The widespread use of masks is crucial for preventing the spread of infectious diseases. Automated mask detection using CNNs can ensure compliance and enhance safety in public spaces and workplaces.



Project Overview

Utilizing **Convolutional Neural Networks** allows for accurate and efficient detection of mask wearing. The **deep learning** approach enables real-time analysis of video feeds and images to identify individuals not wearing masks.



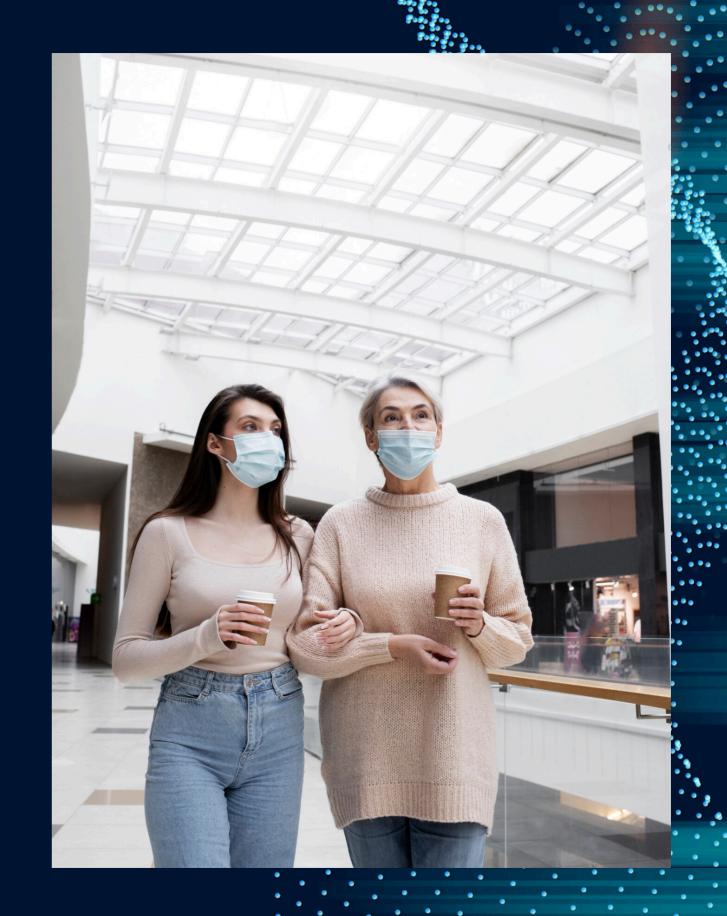
Who are the End Users

The end users for a mask-wearing detection system using Convolutional Neural Networks (CNNs) could vary depending on the context and purpose of the system like public health authorities, business owners, government agencies, transportation authorities, edducational institutions, etc



Your Solution And Its Value Proposition

TThe solution of implementing a mask-wearing detection system utilizing Convolutional Neural Networks (CNNs) offers several benefits and a compelling value proposition in enhancing safety, particularly in the context of mitigating the spread of infectious diseases like COVID-19



The Wow In Your Solution

Integrate the system with digital signage or interactive displays near entry points. When individuals are detected wearing masks, the display could show positive messages or animations, creating a fun and engaging experience. Conversely, if someone is not wearing a mask, the display could provide gentle reminders or prompts for compliance.



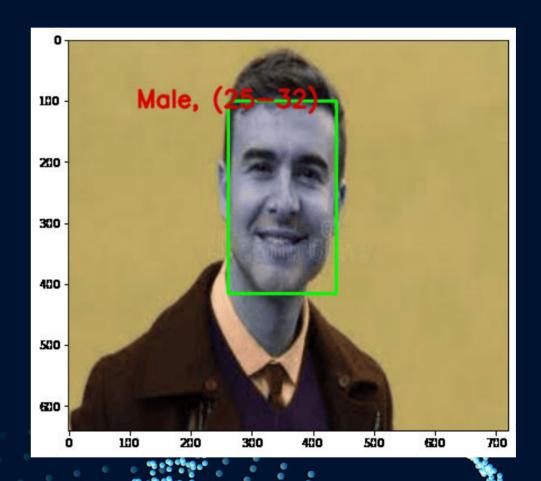
Modelling

Collect a diverse dataset of images containing individuals wearing masks and others without masks. Ensure variability in factors like lighting conditions, angles, and demographics. Annotate the images to label whether each individual is wearing a mask or not. Preprocess the images by resizing them to a consistent resolution, normalizing pixel values, and augmenting the dataset with techniques like rotation, flipping, and brightness adjustments to increase robustness.



Results





DEMOLINK: https://colab.research.google.com/drive/1xby3UOHbEzkYwwATdt46lG635yJh8yv#scrollTo=XAxEQKxVSlgx