**Project Proposal Format Guidelines Computer Science Engineering Department**

**Project Title:** Masked Face Attendance

**Project Owner:** Rohini Sharma (2015/LES/18), Kriti Singh (1683/17), Karan Dogra (1605/17), Aparnam Saini (1627/17), Issha Sethi (1633/17).

**Abstract of Project**: In this pandemic, facemasks have proven to be a very effective measure to slow down the spread of the disease and it is recommended by all organizations like WHO,CDC, etc to wear them when in public places. So our project i.e. Masked Face Attendance to complement people’s efforts and to help in making their workplace safe. Many existing automatic face recognition systems have failed since they are unable to recognize people while they are wearing face masks. Our project aims to solve this problem by using the uncovered portion of their faces as the dataset for training the model which helps in overcoming this existing problem. At the same time our objective is to mark the attendance even if an individual is wearing a face mask or not with no human interference. Also this application checks whether an employee is wearing a face mask or not.

**Platform/Language Used**: Python

**Technology Domain:** Artificial Intelligence, Computer Vision, Digital Video Processing, OpenCV, Deep Learning.

**Comparative analysis of Existing Systems:**

● **Attendance System using Face Recognition:** Most of the systems have face issues when covered with face masks while our solution aims to overcome this issue.

● **Attendance System:** Web based Attendance System like CAMU. It requires heavy human interference. In our solution, human interference is highly reduced.

● **Fingerprint Based System:** Many companies used fingerprint based attendance systems, because of COVID-19, these fingerprint sensors may become a cause of spreading COVID-19. As in our project, attendance is done through camera, so there is less chance of spreading of the virus through the device.

**Basic & Innovative Features in Project:**

● Our solution aims to do facial recognition even if a person is wearing a face mask.

● Manages Attendance in any organization.

● Check whether people are wearing face masks properly or not.

● Aims to help in controlling the spread of pandemic disease COVID-19.

● Computer Vision is used as a core part of the solution.

● Human interference is reduced.

● Can be used in outdoor as well as indoor conditions.

● Human interference is highly reduced.

● Can be used indoors as well as outdoors.

**High Level Project Plan:**

* Firstly, we will create a robust dataset with faces with only the upper half of the face that is eyes, eyebrows, ears, head and forehead.
* We will begin testing with various face recognition models and algorithms to achieve a higher level of accuracy among them.
* After creating a model with a satisfying accuracy, we will further develop the attendance management System.
* Creating a script for face mask detection.
* Developing a web portal where users can mark their attendance as well as view their logs.

**References:** https://pjreddie.com/darknet/yolo/ https://www.samsung.com/us/business/solutions/topics/wearables/social-distancing-managemenhttps://www.triaxtec.com/resource/fact-sheet/proximity-trace/ https://ieeexplore.ieee.org/document/7916753 https://www.fingerprints.com/