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(71)**Name of Applicant :**
1)SWAMI VIVEKANANDA UNIVERSITY
Address of Applicant :Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)BEAUTY MONDAL
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------
2)Sangita Bose
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------
3)Sourav Saha
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------
4)Jayanta Chowdhury
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------
5)Diganta Bhattacharyya
Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY, Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ---------- ----------

(57) Abstract :
The present invention relates to a real-time face mask detection system and method, designed to automatically detect and classify individuals as masked or unmasked in various environments. The system leverages advanced computer vision and machine learning techniques, utilizing a Convolutional Neural Network (CNN) trained on a large dataset of masked and unmasked faces. The system captures live video feeds through high-resolution cameras, processes the video in real-time to detect faces, and classifies them based on mask-wearing status. Upon detection of an unmasked individual, the system triggers an alert or provides feedback. The invention is scalable, adaptable to various lighting conditions, and can be seamlessly integrated into existing infrastructure, offering an efficient and automated solution for enforcing public health guidelines, particularly in high-traffic areas such as public spaces, workplaces, and transportation hubs.

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