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| Title | Hemifacial Microsomia Detection Using Convolutional Neural Networks | | |
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| Abstract |  |
| Hemifacial microsomia (HFM) is a congenital disorder in which the face is underdeveloped. The second most frequent face congenital disorder is hemifacial microsomia. One in each 3,500 to 4,000 babies is affected by hemifacial microsomia. We developed a proposed architecture for detecting hemifacial microsomia based on CNN, OpenCV, Pyttsx3, and Haar cascade classifier. Different convolutional layer has been used in this proposed architecture. OpenCV has been used to detect hemifacial microsomia people from the video camera. Haar cascade classifier can be used to detect faces with OpenCV. Pyttsx3 has been used for machine voice recognition. Furthermore, there is no dataset available online of hemifacial microsomia people. We collect 5000 images from the web to generate the Hemifacial microsomia(HFM) dataset. The proposed architecture has been evaluated using this HFM dataset. Our proposed architecture obtained 83.50% accuracy and 81.98% precision and recall 80.98%, and the F1 score is 81.47%. | |