Missing Child Identification System using Deep Learning and Multiclass SVM for E-police

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Abstract: *Countless children go missing in India every year. In missing children, most children are not included. This article presents a deep learning method to identify missing children from multiple existing images of children with the help of face recognition. Citizens can send pictures of suspicious children to public places with signs and writings. The photo will be automatically compared to the saved photo of the missing child in the warehouse. Sort the photos of the children and choose the best photos from the missing children file. To this end, a deep learning model was trained to accurately identify missing children by matching information about missing children using face images provided by the public. Convolutional Neural Networks (CNNs) are deep learning techniques for image-based applications, this is face recognition. Extract face identifiers from images using the CNN pre-trained VGG-Face deep architecture. Compared to ordinary deep learning applications, our algorithm only uses network connection as high-level input and child identification is done by SVM trainers. Choose VGG-Face, the most effective CNN face recognition model, and train it appropriately to make deep learning models that are not affected by noise, light, contrast, obscuration, image posture and child age, and perform better based on previous Face recognition methods. In identifying missing children, Child identification achieved a 99.41% classification rate. Forty-three patients were evaluated.*

Keywords: Missing Child Recognition, Face Recognition, Deep Learning, CNN, VGG-Face, Multiclass SVM

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