|  |  |  |  |
| --- | --- | --- | --- |
| **Title:** | Thermogram-based Regions with Convolutional Neural Network (RCNN) and Facial Biometrics for Safe Driving | | |
| **Author(s) Name:** | S. Sarkar, T. Bin Khayer, N. H. Kisan, Mohammad Nasir Uddin | | |
| **Contact Email(s):** | drnasir@aiub.edu | | |
| **Published Journal Name:** | 2023 3rd International Conference on Robotics, Electrical and Signal Processing Techniques (ICREST), | | |
| **Type of Publication:** | Conference | | |
| **Volume:** |  | Issue |  |
| **Publisher:** | IEEE | | |
| **Publication Date:** | Published April. 2023 | | |
| **ISSN:** |  | | |
|  |  | | |
| **DOI:** | 10.1109/ICREST57604.2023.10070063. | | |
| **URL:** | https://ieeexplore.ieee.org/document/10070063/ | | |
| **Other Related Info.:** | pp. 207-211 | | |
|  | | | |

|  |  |
| --- | --- |
| **Abstract:** |  |
| A significant number of wrongful death cases involve motor vehicle accidents. In most car accidents, the driver is somehow at fault. This can be due to a lack of visibility, slow decision-making, or bad weather, among other things. The proposed system aims to create a safe driving assist technology consisting of thermal camera-based object detection and intelligent vehicle anti-theft measures to assist in safe driving and provide vehicle security on top of the existing system. This proposed system not only can easily detect objects in low visibility under unsuitable weather conditions, with an average accuracy of 97% but also provides vehicle safety by using facial-biometrics-based vehicle authentication where the accuracy is 95%. This also has a 36-fault data-saving capacity in the database at a time. The authorized user doesn’t always require Internet support to access the vehicle, whereas the unregistered user needs app-based permission from the user to access the car. | |