Accident Detection and Reporting Using Deep Learning

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Abstract: *With population growth, the demand for vehicles has increased tremendously, which has created an alarming situation in terms of traffic hazards and road accidents. The road accidents percentage is growing exponentially and so are the fatalities caused due to accidents. However, the primary cause of the increased rate of fatalities is due to the delay in emergency services. Many lives could be saved with efficient rescue services. The delay happens due to traffic congestion or unstable communication to the medical units. The implementation of automatic road accident detection systems to provide timely aid is crucial.*

Keywords: Machine Learning, Deep Learning, Data-flow diagram (DFD), Convolutional neural network (CNN)

REFERENCES

[1] Lee, K. B., & Shin, H. S. (2019). An Application of a Deep Learning Algorithm for Automatic Detection of Unexpected Accidents Under Bad CCTV Monitoring Conditions in Tunnels. 2019 International Conference on Deep Learning and Machine Learning in Emerging Applications (Deep-ML).

[2] Rajvardhan Rishi, Sofiya Yede, Keshav Kunal "Automatic Messaging System for Vehicle Tracking and Accident Detection" Proceedings of the International Conference on Electronics and Sustainable Communication Systems .

[3] Wang Wei, Fan Hanb "Traffic Accident Automatic Detection And Remote Alarm Device" 978 1-4244 8039 5/11/$26.00 ©2011 IEEE.

[4] Venkata Krishna Kota,1 Nagendra Kumar Mangali, Thirumal Kumar Kanakurthi "Automated Accident Detection and Rescue System" 978-1-5090-4442-9/17/$31.00_c 2017 IEEE .

[5] Akanksha Soni,Arun Pratap Singh "Automatic Motorcyclist Helmet Rule Violation Detection using Tensorflow" 2020 IEEE International Students' Conference on Electrical, Electronics and Computer Science.

[6] Gokul Rajesh, Amitha Rossy Benny, Harikrishnan A, James Jacob Abraham and Nithin Prince John "A Deep Learning based Accident Detection System " 978-1-7281-4988-2/20/$31.00 ©2020 IEEE.

[7] JIAXIN TIAN1 , (Senior Member, IEEE), CHUANG ZHANG1 , XUTING DUAN1 , AND XIXIAN WANG1 "An Automatic Car Accident Detection Method Based on Cooperative Vehicle Infrastructure Systems " .

[8] Sreyan Ghosh; Sherwin Joseph Sunny; Rohan Roney "Accident Detection using Convolutional Neural Networks" 2019 International Conference on Data Science and Communication.