

Emergency Vehicle Detection

Malavika Somarajan¹ and Sanooja Beegam²

Student, Department of Computer Applications¹

Assistant Professor, Department of Computer Application²

Musaliar College of Engineering & Technology, Pathanamthitta, Kerala

Abstract: *Emergency vehicle detection is an important application of computer vision technology that aims to improve the safety and efficiency of emergency services. The main objective of this system is to detect emergency vehicles, such as ambulances, police cars, and fire trucks, in real-time from a video stream captured by a camera installed on the road by using YOLOv3 algorithm. This system uses real-time video processing techniques to detect emergency vehicles and allocate time in traffic signals to prioritize their movement. The system consists of a camera installed on the road that captures the video of the traffic flow. The captured video is then analyzed by the system, and the presence of an emergency vehicle is detected using advanced computer vision techniques such as object detection and classification.*

Keywords: CNN, Bi-LSTM, Deep learning, Natural language processing

REFERENCES

- [1] Bochkovskiy A, Wang C-Y, Liao HM (2020) YOLOv4: optimal speed and accuracy of object detection
- [2] Chen L, Ye F, Ruan Y, Fan H, Chen Q (2018) An algorithm for highway vehicle detection based on convolutional neural network. EURASIP J Image Video Process 2018(1):1–7
- [3] Chollet F (2017) Xception: deep learning with depthwise separable convolutions. In: Proceedings of the IEEE conference on computer vision and pattern recognition, pp 1251–1258 (2017)
- [4] H. K. Kanzaria, M. A. Probst, and R. Y. Hsia, “Emergency department death rates dropped by nearly 50 percent, 1997–2011,” Health Affairs, vol. 35, no. 7, pp. 1303–1308, 2016.
- [5] L. C. Smeby Jr et al., Fire and emergency services administration: Management and leadership practices. Jones & Bartlett Publishers, 2013