

# Fire Detection and Localization in Video Surveillance Application

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**Abstract:** *In recent years there has been rapid development in technology which has made human life easier in several aspects. Fire is an abnormal event which can cause significant damage to lives and property. fires are an uncontrollable disaster which causes damages to the society as well as endangering nature. Fire Analysis and Prediction System is made to detect the fires then performs prediction of the hearth spread. Fire accidents pose a major threat to the world. These could be prevented by deploying fire detection systems, but the prohibitive cost, false alarms, need for dedicated infrastructure, and the overall lack of robustness of the present hardware and software-based detection systems have served as roadblocks in this direction.*

**Keywords:** Convolutional Neural Networks (CNN), Deep Learning, Fire Detection.

## REFERENCES

- [1]. PETKOVIC, M., GARVANOV, I., KNEZEVIC, D., & ALEKSIC, S. (2020). Optimization of Geographic Information Systems for Forest Fire Risk Assessment. 2020 21st International Symposium on Electrical Apparatus & Technologies (SIELA).
- [2]. Yen Feng, LuoNingzhao, Wu Benxiang (2019) Design and Experimental research video detection system for ship fire, 2019 2nd International Conference on Safety Produce Infromation
- [3]. Dang-Ngoc, H., & Nguyen-Trung, H. (2019). Aerial Forest Fire Surveillance - Evaluation of Forest Fire Detection Model using Aerial Videos. 2019 International Conference on Advanced Technologies for Communications (ATC).
- [4]. Shen, D., Chen, X., Nguyen, M., & Yan, W. Q. (2018). "Flame detection using deep learning". 2018 4th International Conference on Control, Automation and Robotics (ICCAR).
- [5]. Dengyi Zhang, Shizhong Han, Jianhui Zhao, Zhong Zhang, ChengzhangQu, YouwangKe, Xiang Chen "Image-Based Forest Fire Detection Using Dynamic Characteristics With Artificial Neural Networks" 2009 International Joint Conference on Artificial Intelligence.
- [6]. Cheryl MarlittaStefia "Fire Detection System To Prevent Fire With Artificial Neural Network Method" Openlibrary-Telkom University 2018.
- [7]. Frizzi, S., Kaabi, R., Bouchouicha, M., Ginoux, J., Moreau, E., Fnaiech, F., "Convolutional Neural Network for Video Fire and Smoke Detection", 2016
- [8]. D.S. Shingate, Rutika Bajaj, Anshu Singh, GayatriWalzade and YogitaBhavar, "Sign Language interpreter", International Journal of Science and Engineering Development Research, vol. 4, no. 10, pp. 89-92, October 2019, ISSN 2455-2631
- [9]. S. Frizzi, R. Kaabi, M. Bouchouicha, J. M. Ginoux, E. Moreau, and F. Fnaiech, "Convolutional neural network for video fire and smoke detection," 42nd Annual Conference of the IEEE Industrial Electronics Society, 2016.
- [10]. E. Gunawaardena, R. M. M. Ruwanthika, and A. G. B. P. Jayasekara, "Computer vision based fire alarming system," IEEE 2016.
- [11]. P. Santana, P. Gomes, and J. Barata "A vision-based system for early fire detection," 2012 IEEE International Conference on Systems, Man, and Cybernetics, pp. 14- 17, 2012 October

