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Development of Enhanced Fire Suppression and Live Surveillance Robot: Lora Flame-Guard

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Abstract: This paper is related to development of enhanced fire suppression and live surveillance robot. The paper consists of basic background, methodology and basic construction of robot. This paper is part of final year student project. Lora Flame-Guard is a ground breaking development in the field of fire suppression and live surveillance. This advanced robot is equipped with state-of-the-art technology and capabilities to effectively suppress fires in high-risk environments while providing real-time surveillance and data collection. The key features of Lora Flame-Guard include its ability to swiftly navigate through complex terrains, identify fire sources using advanced sensors, and deploy various suppression methods such as foam, water mist, and dry chemicals. In addition, its live surveillance capabilities allow for remote a comprehensive overview of the development process, design considerations, and technical specifications of Lora Flame-Guard. Furthermore, it highlights the potential benefits and applications of this innovative robot in improving fire safety and emergency response strategies.

Keywords: Lora Flame Guard, Fire Suppression, Live Surveillance, Advanced Robot

REFERENCES

- [1]. Cavalera, G., Rosito, R., Lacasa, V., Mongiello, M., Nocera, F., Patrono, L., & Sergi, I. (2019, June 1). An Innovative Smart System based on IoT Technologies for Fire and Danger Situations. https://doi.org/10.23919/splitech.2019.8783059
- [2]. Ferreira, L., Coimbra, A., & Almeida, A. (2020, August 19). Autonomous System for Wildfire and Forest Fire Early Detection and Control. https://doi.org/10.3390/inventions5030041
- [3]. Alkhatib, A. (2014, March 4). A Review on Forest Fire Detection Techniques. https://journals.sagepub.com/doi/full/10.1155/2014/597368
- [4]. H\u00e4usermann, D. (2023, June 13). FireDrone: Multi-Environment Thermally Agnostic Aerial Robot. https://onlinelibrary.wiley.com/doi/10.1002/aisy.202300101
- **[5].** Yamauchi, Y., Maezawa, Y., Ambe, Y., Konyo, M., Tadakuma, K., & Tadokoro, S. (2023, December 22). Development of a remotely controllable 4 m long aerial-hose-type firefighting robot. Frontiers in robotics and AI.
- [6]. https://www.frontiersin.org/articles/10.3389/frobt.2023.1273676/full?utm_source=S-TWT&utm_medium=SNET&utm_campaign=ECO_FROBT_XXXXXXXX_auto-dlvrit
- [7]. Wang, J., Zhang, D., Liu, M., Xu, F., Hu-Lin, S., & Yang, S. (2014, June 1). Discussion of Society Fire-Fighting Safety Management Internet of Things Technology System. https://doi.org/10.1109/isdea.2014.101
- [8]. Zhang, B., Bai, L., & Chen, X. (2021, April 1). Research on the Design of Fire Alarm and Pre-treatment Robot System. Journal of physics. Conference series. https://doi.org/10.1088/1742-6596/1865/4/042106
- [9]. Hossain, A., Roy, H., Khondakar, M., Sarowar, M., & Hossainline, M. (2021, January 5). Design and Implementation of an IoT Based Firefighting and Affected Area Monitoring Robot. https://doi.org/10.1109/icrest51555.2021.9331064
- [10]. Jia, Y., Li, J., Guo, N., Jia, Q., Bo-feng, D., & Chen, C. (2018, November 1). Design and Research of Small Crawler Fire Fighting Robot. https://doi.org/10.1109/cac.2018.8623538

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