Special Issue

Computer Vision and Artificial Intelligence in Fire and Flame Detection

Message from the Guest Editors

The recent advancements in computer vision and artificial intelligence (AI) have profoundly transformed fire detection paradigms. Innovative methods such as computer vision-based detection, laser-based systems, and AI-integrated gas sensors have enhanced the performance and reliability of fire detection. This Special Issue is dedicated to showcasing research that leverages sophisticated algorithms for the real-time analysis of visual and thermal data, distinguishing genuine fire signatures from non-threatening sources with exceptional precision. The topics of interest include the synergy between multimodal sensing technologies and AI, the development of adaptive algorithms that can interpret sensor data across diverse environmental conditions, and theoretical frameworks that underpin the mechanics of AI-driven detection systems. We also invite submissions that evaluate the scalability and effectiveness of these technologies in practical scenarios, providing insights into their integration and impact on fire safety protocols. Our objective is to explore cutting-edge developments and push the boundaries of what is technically feasible in fire safety management.

Guest Editors

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About the Journal

Message from the Editor-in-Chief

Fire is an international open-access journal about the science, policy, and technology of fires and how they interact with communities and the environment. *Fire* seeks to provide a forum to help the fire science community convey how we can live with fire in a changing world. *Fire* seeks submissions from interdisciplinary studies that take a pyrogeography perspective of fires occurring in natural, cultural, and industrial landscapes and how they interact with communities in the science-policy interface. *Fire*'s Editorial Board are widely recognized international leaders. The journal emphasizes quality and innovation and has a rigorous peer-review process. I strongly recommend *Fire* for the rapid publication of your innovative research publications and case studies.

Editor-in-Chief

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