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Thème

Détection des anomalies dans les séries temporelle multivariées avec application sur les vidéos aérienne

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My very dear parents,
My dear sister,
My brother,
All my family,
All my friends.
Thanks.

Abstract

In light of the recent explosion in drone technology and aerial video data, the volume and intricacy of these data types, notably their inter-related dynamics, have surged exponentially, rendering traditional, manual inspection techniques ineffective and error-prone. The most potent solution to tackle this issue is by leveraging Artificial Intelligence to autonomously oversee these systems, distinguishing between ordinary and anomalous behavior through analysis of vast amounts of spatial-temporal dependent data.

Alongside its standing as a thriving field of research, Anomaly Detection in aerial videos has become a cornerstone in contemporary surveillance and security systems, given the significant risks posed by abnormal patterns to these systems. The discipline of Machine Learning is experiencing its defining era, courtesy of its algorithms being deployed in a plethora of tasks, and Anomaly Detection within aerial videos is no exception.

In this thesis, we elucidate the primary facets of anomaly detection in aerial videos, post outlining the cutting-edge Machine Learning and Deep Learning techniques. We then delineate an empirical study that involves applying an established algorithm in the context of unsupervised anomaly detection in aerial videos. In conclusion, we provide a comprehensive analysis and discussion on the outcomes derived from the adopted methodologies.

Key Words: Anomaly Detection,Aerial Videos,Time Series,Machine Learning,Deep Learning.