

Title: UAV (Unmanned Aerial Vehicle): Diverse Applications of UAV Datasets in Segmentation, Classification, Detection, and Tracking

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Abstract: Unmanned Aerial Vehicles (UAVs) have transformed the process of data collection and analysis in a variety of research disciplines, delivering unparalleled adaptability and efficacy. This paper presents a thorough examination of UAV datasets, emphasizing their wide range of applications and progress. UAV datasets consist of various types of data, such as satellite imagery, images captured by drones, and videos. These datasets can be categorized as either unimodal or multimodal, offering a wide range of detailed and comprehensive information. These datasets play a crucial role in disaster damage assessment, aerial surveillance, object recognition, and tracking. They facilitate the development of sophisticated models for tasks like semantic segmentation, pose estimation, vehicle re-identification, and gesture recognition. By leveraging UAV datasets, researchers can significantly enhance the capabilities of computer vision models, thereby advancing technology and improving our understanding of complex, dynamic environments from an aerial perspective. This review aims to encapsulate the multifaceted utility of UAV datasets, emphasizing their pivotal role in driving innovation and practical applications in multiple domains.

Keywords: UAV (unmanned aerial vehicle); UAV datasets; object detection; semantic segmentation; action recognition; event recognition; aerial; surveillance

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