

CSE541 - Computer Vision

Weekly Report 3

**Improvising Object Tracking Algorithm SORT for Long-Term Trajectory Extraction**

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2023-2024 (Winter Semester)

### This week, we focused on the paper "Detection and Tracking Meet Drones Challenge" by Zhu et al. (2021), which introduces a benchmark dataset for evaluating object detection and tracking algorithms specifically for drone-captured videos. Here are the key points we learned about the dataset:

### **Motivation:**

### The widespread use of drones with cameras has created a demand for automatic analysis of aerial video data, particularly in fields like agriculture, surveillance, and aerial photography.

### This dataset aims to address the need for a standardized benchmark to evaluate and compare object detection and tracking algorithms for drone applications.

### **Challenge Workshops:**

### The authors organized three challenge workshops (2018, 2019, and 2020) in conjunction with major computer vision conferences, attracting over 100 teams worldwide.

### These workshops likely helped refine the dataset and establish its value in the research community.

### **Dataset Details:**

### The paper mentions the availability of the dataset and experimental results, though it doesn't explicitly specify the content or format.

### We need to further investigate by searching online resources such as the project website or Github repository mentioned in other sources (<https://github.com/VisDrone/Awesome-VisDrone>), which might hold the actual dataset and detailed information about its content, format, and evaluation metrics.

### **Next Steps:**

### Download and explore the VisDrone dataset (<https://github.com/VisDrone/Awesome-VisDrone>).

### Analyze the dataset's content, including object categories, video lengths, and annotation formats.

### Investigate the evaluation metrics used in the challenge workshops to understand how performance is measured.

### By completing these steps, we will gain a comprehensive understanding of the Detection and Tracking Meet Drones Challenge dataset and its potential use in our research or development of object detection and tracking algorithms for drone applications.

### **References:**

1. Zhu, P., Wen, L., Du, D., Bian, X., Fan, H., Hu, Q., & Ling, H. (2021). Detection and Tracking Meet Drones Challenge. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1-1. doi:10.1109/TPAMI.2021.3119563