# Special Issue

# When Deep Learning Meets Geometry for Air-to-Ground Perception on Drones

## Message from the Guest Editors

Recently, drones are drawing increasing attention as data acquisition or aerial perception platforms for many civilian or military applications. Owing to the success of deep learning in computer vision, drone images are processed in an end-to-end manner to achieve air-to-ground perception (e.g., detection, tracking, recognition). Generally, drone images are processed as general images ignoring the geometric metadata (e.g., location, altitude, pose) generated by the drone equipped GPS or IMU sensors. Inspired by Simultaneous Localization and Mapping (SLAM) which utilizes both image data and geometric data, this Special Issue aims at boosting deep learning based air-to-ground perception performance with geometric metadata for drones. We welcome submissions which provide the community with the most recent advancements regarding this Special Issue. Topics of interest include, but are not limited to, the following:

- Air-to-ground object detection for drones
- Air-to-ground single/multiple object tracking for drones
- Air-to-ground object localization for drones
- Air-to-ground monocular visual slam for drones

## Guest Editors

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## Deadline for manuscript submissions

closed (30 August 2024)

MDPI

# Drones

# About the Journal

### Message from the Editor-in-Chief

*Drones* is the only international open-access journal about the science, policy and technology of drones and its applications. Nowadays, the proliferation of drones is a reality for local policy makers, regulatory bodies, mapping authorities, startups and consolidated companies. There are many uses and benefits of drones: from the emergence of new sensors and the evolution of new platforms; to the development of specific software and the emergence of new applications. *Drones* publishes reviews, regular research papers, communications and short notes, without restriction on the length of papers. *Drones* seeks to provide a central forum for scholars engaged in drones' research and applications.
There is a need for high quality papers in this area and the *Drones* Editorial Board are widely recognized international leaders. *Drones* journal guarantees a serious peer review and a rapid publication across the whole discipline of drones.

### Editor-in-Chief

Prof. Dr. Diego González-Aguilera
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