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Postprint: Application of Drone Aerial Photography in News Reporting

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Abstract

The ultimate dream of journalists is to possess an “all-seeing” and “all-knowing” heavenly eye to view the world—namely, aerial photography. With the development of the drone industry and decreasing costs, drone design has become increasingly simplified and intelligent, making this dream a reality today. The advantages of drone aerial photography include simple operation, convenient application, and unique shooting angles, benefits that are now being leveraged by television stations. This article presents examples of widespread drone aerial photography usage in television news media, and combines the author’s own learning experience and investigation into drone aerial photography to provide a comprehensive overview of the role of aerial drones in news gathering.

Full Text

Application of Drone Aerial Photography in News Reporting

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Abstract:
Journalists have long dreamed of possessing an “all-seeing” and “all-knowing” heavenly eye to view the world—this is the essence of aerial photography. With the development of the drone industry and decreasing costs, drone designs have become increasingly streamlined and intelligent, transforming this dream into reality. The advantages of drone aerial photography include simple operation, convenient deployment, and unique shooting angles, benefits that are now being widely embraced by television stations. This paper examines extensive real-world examples of drone usage in television news media, combined with the author’s own learning experiences and field investigations, to provide a comprehensive overview of the role aerial drones play in news gathering. Aerial

photography was initially applied mainly to feature stories, documentaries, and routine television news, but has since expanded to cover breaking events, real-time news, and large-scale variety programs. Drones can capture footage from heights and perspectives that are impossible for human operators to reach, offering the broadest possible field of view and holistic depiction of events, making it the optimal means for showcasing real-world scenes today.

Keywords: Drone Aerial Photography; News Reporting; Application

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1.1 Enhancing Visual Impact of Television News

In conventional news reporting, images and videos are captured from standard ground-level perspectives, making it difficult to present complete panoramic views of news scenes. Large-scale events have traditionally been filmed from surrounding high-rise buildings, mountains, or firefighting platforms, but these approaches face significant limitations: restricted site access, limited altitude, and fixed camera positions that cannot be moved. Even the most skilled videographers struggle to capture ideal footage, particularly for exceptionally large scenes where environmental constraints prevent full panoramic shots, forcing them to settle for partial views.

Drone aerial photography overcomes these limitations entirely. Drones provide unprecedented shooting perspectives with sufficient altitude, flexible angles, short takeoff times, and the ability to adjust positioning based on site conditions without restrictions. They can capture sweeping aerial panoramas or fly low for detailed tracking shots, making them ideal for large-scale news events. The resulting footage is aesthetically compelling and grand in scale, fully showcasing the scene's atmosphere, characteristics, magnitude, and geographic context with strong expressive power and visual impact that captures audience attention.

For example, the International Half Marathon in Helong City, Jilin Province, has been held five times in recent years, each attracting over 10,000 domestic and international participants for the 21.0975-kilometer race. CCTV-5 broadcast all five events live, presenting spectacular and magnificent scenes. Both CCTV and local stations employed drones to capture the entire grandeur of the competition while highlighting thrilling moments from over 10,000 athletes, adding tremendous visual value to their news coverage. These broadcast clips were subsequently aired simultaneously on Jilin Satellite TV and CCTV News Channel.

1.2 Enhancing Credibility of Investigative Reporting

Television news primarily conveys information to audiences through images and video, requiring content to be accurate, comprehensive, and truthful without any distortion. However, news coverage is constrained by time and space, making it impossible using conventional methods to display all aspects of a story. Drone aerial photography can substantially compensate for these limitations, particularly in investigative and supervisory reporting where aerial technology renders news content more vivid and persuasive, increasing audience engagement.

For instance, on October 10, 2016, Zhejiang Satellite TV reported on the unauthorized use of a multi-purpose office building in Yangshangang Village, Cixi City. The report employed comprehensive aerial footage to provide viewers with an intuitive understanding of the entire situation, followed by interviews with key individuals involved. This approach presented the complete story with clarity, upheld the principle of letting facts speak for themselves, and significantly enhanced the credibility of the state supervisory reporting.

1.3 Enhancing Real-Time Capability of On-Site Reporting

Drone aerial photography is particularly suited for process-oriented and dynamic news events. For breaking stories, fixed cameras struggle to reveal the full scope of events. Single-camera long shots lack angle variety, while multi-camera setups, though providing richer perspectives, result in fragmented and incoherent narratives. Drones solve this problem through comprehensive overhead filming.

Geographic constraints often complicate news coverage. Yanbian Korean Autonomous Prefecture in Jilin Province, located at the foot of Changbai Mountain, features complex terrain with continuous mountain ranges that create significant filming challenges. Drones' rapid takeoff capabilities and compact, agile design enable them to overcome these difficulties, reaching event sites quickly to provide the clearest possible footage.

In 2016, for example, when a large dinosaur fossil cluster was discovered in Yanji City, Yanbian Korean Autonomous Prefecture, national media conducted extensive live coverage using multiple small drones for footage acquisition. The drones comprehensively documented the excavation progress from above, captured the scenic curves of Mao'er Mountain, and provided close-up shots, offering a complete and intuitive portrayal of the excavation site with excellent results.

1.4 Enhancing Timeliness of Breaking News Reporting

The fundamental purpose of television news is to provide audiences with the truth of events in the fastest and most intuitive manner possible. Drone aerial photography solves numerous challenges in news gathering, particularly transportation and geographic constraints, giving journalists more options when covering stories. This technology plays a critical role in breaking news coverage,

where journalists must reach scenes as quickly as possible but often cannot access primary locations due to potential dangers and uncertainties.

Drones' unmanned operation and rapid deployment make them ideal for disaster and breaking news reporting. In such scenarios, drones provide maximum convenience for journalists while ensuring their personal safety.

For example, when Typhoon Lionrock struck Yanbian Korean Autonomous Prefecture in 2016 and severe flooding occurred in 2017, the region suffered massive property damage with interrupted roads, power, and communications. Many areas were extremely complex and dangerous. CCTV, Jilin Television, Yanbian Television, and various county-level stations all deployed aerial teams to comprehensively cover the flood relief efforts, using small drones for footage acquisition and even employing octocopters for direct live broadcasting, creating more comprehensive coverage.

2.1 Emphasizing Safety

Safety must be the paramount concern when operating drones; no 侥幸心理 (lucky chances) should be taken. Minor errors can lead to major accidents, with the greatest threats being lack of common sense and momentary negligence. Operators must never let their guard down. Drone aerial photography must avoid flying over crowds, tall buildings, and dense vehicle traffic. Unless absolutely necessary, drones should never fly above people. When coverage requirements demand flight over dense crowds, the operation must be foolproof—if there is not 100% certainty, the aerial shoot should not proceed. Both location and timing affect public safety.

For flight safety, operators must enable flight limitation functions, including altitude and distance restrictions. Relevant departments should also establish drone usage protocols, conducting detailed pre- and post-flight inspections. Additionally, operators should participate in accident analysis sessions to prevent recurrence and avoid disrupting normal reporting operations.

2.2 Considering Weather Conditions

Weather conditions must be carefully assessed before flight. Unsuitable weather makes sustained flight impossible. Most drones cannot withstand wind and rain—even light precipitation affects performance. Flying in strong winds is dangerous and produces blurry, unusable footage. These challenges require operators to accumulate substantial experience. If aerial photography is absolutely necessary in windy conditions, operators should switch to manual mode or fly with the wind, using it to control direction. Drones should never be used during thunderstorms or gales. In cold weather, pre-flight warm-up is essential. Flying above 3,000 meters altitude or in extremely cold conditions causes excessive battery drain, reducing power system performance and overall flight capability and range.

2.3 Managing Signal Interference and Field of View

High-rise buildings, telecommunications towers, mobile transmission towers, and high-voltage power lines all interfere with drone control signals. Buildings with substantial steel reinforcement can also affect compass functionality, preventing proper positioning. Therefore, during aerial operations, it is best to keep the aircraft within normal operational ranges, selecting locations without tall buildings, high-voltage lines, or communication transmitters to prevent equipment interference. Additionally, avoid flying near airports to prevent disrupting normal aircraft operations and creating difficulties for operators.

2.4 Altitude Considerations

Analysis of aerial footage demonstrates that shots captured above 500 meters lose practical significance. From a safety perspective, drone aerial photography altitude is generally regulated to within 200 meters.

2.5 Ensuring Stability

High-quality aerial footage requires numerous long takes with maximum stability. Superior aerial shots are typically achieved through smooth, continuous flight. For example, finding a foreground element and slowly ascending creates complete, fluid visuals.

Drone aerial photography not only transforms news videography and photojournalism methods but also enhances the three-dimensional quality of news footage, strengthens the persuasiveness and credibility of television reporting, and expands channels for understanding the world. As drone technology continues to develop, news photography and videography have gained a “third eye” for viewing the world from new perspectives, enabling aerial technology to play an increasingly important role in news reporting and providing people with more ways to comprehend the world.

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Note: Figure translations are in progress. See original paper for figures.

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