[](http://crossmark.crossref.org/dialog/?doi=10.33153/dewaruci.v17i2.4147&domain=pdf)Technical Limitations of FPV Drones in Creating Vertical Videos of Natural Landscapes for Instagram Reels

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| ABSTRACT |  |  |
| First Person View (FPV) drones have significantly impacted aerial videography, offering immersive perspectives and dynamic footage. However, the rising popularity of vertical video formats, particularly on social media platforms like Instagram Reels, presents new challenges. This study investigates the technical limitations of FPV drones in creating vertical videos of natural landscapes, focusing on stabilization, camera orientation, and manual control constraints. Through a mixed-methods approach, we conducted field experiments with 20 professional FPV drone videographers and supplemented our findings with interviews and surveys. The results highlight several key limitations: the fixed camera orientation of FPV drones hampers vertical shot stability and composition, while the manual control required for FPV drones complicates smooth vertical videography. Survey data revealed that 70% of videographers regularly create vertical content, yet 65% face significant challenges due to these technical constraints. Proposed solutions include the development of specialized gimbals, improved camera mounts, and advanced software tools for reformatting horizontal footage. This research underscores the necessity of adapting FPV drone technology to meet the demands of vertical video formats, which are increasingly favored by social media algorithms for higher engagement. Addressing these limitations will enhance the quality and viability of FPV drone videography in the evolving digital landscape. Future research should explore additional challenges, such as landscape characteristics, image composition, and editing techniques, to further support content creators in this dynamic field. This study provides a comprehensive analysis of current challenges and potential innovations, guiding the future of FPV drone videography in vertical video production.  [https://licensebuttons.net/l/by-sa/3.0/88x31.png](http://creativecommons.org/licenses/by-sa/4.0/)This is an open-access article under the [CC–BY-SA](http://creativecommons.org/licenses/by-sa/4.0/) license |  | Article History  Received …  Revised …  Accepted …  Keywords  Vertical video  FPV drone videography  Instagram reels  Drone limitation |