

Usability of image generation platforms to produce oblique viewpoints

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The interpretation of oblique aerial views in UAV operations is an important task, yet one that provides unique challenges. The human visual system is mal-adapted to visual perception from the air, especially when oblique views are involved. Hence, UAV operators have to be given training in the interpretation of oblique aerial visual stimuli. A novel way to train operators on how to accurately inspect and perceive oblique aerial images is to administer multiple trials of discrimination tasks for paired oblique images. In discrimination training, trainees view pairs of oblique aerial views and determine whether the images are taken from comparable positions, or contain similar information, etc. For such training, a number of images need to be developed. There are a number of ways that these training images can be generated: The methods differ in the amount of detail they provide and with respect to the resources they require for their development. This paper examines the feasibility and usability of different methods of image generation for aerial UAV imagery. Development of stimuli from sources such as aerial photographs, web-based models, and off-the-shelf simulations are discussed.