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Media forensics - Photoshop forensics, photogrammetry and videogrammetry: Identifying details, calculating subject height and vehicle speed

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Abstract

Visual metrics allow for the determination of object sizes and speeds from recorded images and videos. Photogrammetry is the science of object measurements from an image. When multiple objects are coupled with vector analysis, relative sizes can be determined. If the scene contains at least one known object as a control, all object sizes can be calculated. Videogrammetry uses similar techniques to determine object sizes and speeds from video. When coupled with visual clarification and enhancement techniques, details outside the field of recording can be reconstructed. Case studies will be provided.

Biography

Doug Carner is an audio-video enhancement and authentication expert. He is the President and lead technologist of Forensic Protection, and is board certified by the American College of Forensic Examiners and the American Society for Industrial Security. He is a Phi-Beta-Kappa graduate of U.C. Davis, trained in media forensic sciences, and factory trained on leading recording systems. He is an active member of the International Association for Identification and the International Association for Legal Research Investigators. He has processed evidence in over a thousand cases with results that have been featured in the national news, and accepted by courts and agencies worldwide. His recent high-profile cases include “George Zimmerman – Trayvon Martin”, “Mathew Clark”, “Abdul Arian”, and previously unsolved crimes around the world. He has been featured on "KFI radio news", "PI's Declassified", and as an expert on the "Dr. Phil" show. His writings have been published in "The Jury Expert - American Society of Trial Consultants", "Homeland Security News Wire" and "Security Info Watch". He has pioneered industry innovations and is an avid advocate for Clarification, the new science-based alternative to judgment-based enhancements. He routinely donates his time to innocence projects, indigent clients, and as an educational speaker. He is a frequent lecturer on how to determine if audio-video discovery files are altered copies, how audio-video files are enhanced and authenticated, and effective methods to get opposing counsel's media exhibits and experts excluded. He has received both prosecution and defense praise for his detailed work that results in an exceptionally high rate of pretrial case dismissal or settlement.