



SYSTEMS, METHODS, AND MEDIA FOR IMPROVING SIGNAL-TO-NOISE RATIO IN SINGLE-PHOTON DATA

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The Invention

UW-Madison researchers have developed a photon processing method that enables reliable scene property estimation over a wide range of operating conditions while requiring no training and remaining agnostic to the applications. This method is called CASPI (Collaborative photon processing for Active Single-Photon Imaging). It leverages spatio-temporal correlations in photon data cubes to determine reliable scene property estimations under extreme lighting conditions. The photon data cubes are created at the sensor level using the raw data time stamps, instead of first combining all the sensor data, processing it, then trying to denoise it further downstream. The inventors created new algorithms to use the photon data cube information to identify similarities in the scenes for denoising.

Additional Information

For More Information About the Inventors

- [Mohit Gupta](#)

Tech Fields

- [Information Technology : Image processing](#)

For current licensing status, please contact Michael Carey at mcarey@warf.org or 608-960-9867