



## SYSTEMS, METHODS, AND MEDIA FOR EULERIAN SINGLE-PHOTON COMPUTER VISION

[View U.S. Patent No. 12,223,620 in PDF format.](#)

**WARF: P230234US01**

Inventors: Mohit Gupta, Shantanu Gupta

### The Invention

UW-Madison researchers have created computationally light-weight phase-based techniques for low-level vision tasks such as edge detection and motion estimation, which extract scene information directly from binary quanta samples while avoiding the memory and compute-intensive intermediate step of image reconstruction. Figure 1 shows the basic method of taking the SPAD samples from a scene, treating the space as a 3D volume, applying 3D filters, and identifying the responses that correlate to edges and motion. They've figure out the key parameters and details on how they identify the filter responses that are needed for downstream tasks.

### 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](mailto:mcarey@warf.org) or 608-960-9867