

**TABLE 1 COMMON MACHINE-VISION ALGORITHMS**

<b>Algorithm</b>	<b>Description</b>	<b>Usage</b>
Histogram	Counts and graphs the total number of pixels at each gray-scale level	Determine whether the exposure and contrast of an image are suitable to the application
Spatial filters	Remove noise, sharpen, smooth, and transform images	Improve image quality
Blob analysis	Detect binary large objects (blobs) to find regions of interest in an image	Locate objects, detect flaws, identify objects
Edge detection	Locate the edges of objects	Measure objects, detect objects, determine alignment
Pattern matching	Locate regions of an image that match a template	Locate and identify objects for alignment, inspection, and measurement
Color matching	Compare the color of a region with a color template	Identification, sorting, color inspection