

Quarterly newsletter from Photonics Media featuring the latest advancements in and applications for vision systems – from sensors to software. Manage your Photonics Media membership at Photonics.com/subscribe.

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Consumer Electronics Inspection Put to the Test

Every year, smartphones, TVs, tablets, and computers get more capable in terms of screen resolution and processing power. This deluge pressures manufacturers to increase throughput. So they must reduce how long it takes on average to make one unit, an interval known as takt time.



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Advancements in 3D Vision, Software Bolster Bin Picking

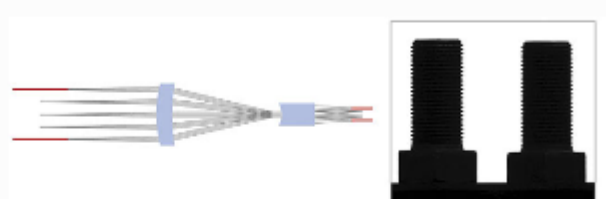
Numerous production processes are automated today that were inconceivable a few years ago. Of the many challenges to overcome, one of the primary ones is in vision-guided robotics, particularly in the area of bin picking, which involves the robotic selection and acquisition of objects at random from within a bin.



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Advancements in Telecentric Technology

Generally, it is possible to distinguish between two main types of machine vision applications: inspection, which involves shape or color defect detection, presence/absence and position checking, and barcode reading; and gauging, which involves passing from traditional systems to noncontact optical measurement. It is in the latter that telecentric optics boast performance primacy when compared to standard entocentric, fixed focal length lenses.



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Vision Spectra - Spring 2020



Vision Spectra is a global resource geared for the vision community, with real-world case studies of vision in action, comprehensive feature articles, and columns from experts in the field examining the trends that enable Industry 4.0.

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Featured Products



Theia's Ultra-Wide No Distortion Lenses

Theia Technologies
Lenses made with Theia's patented Linear Optical Technology® are designed to cover wide areas without distortion. This innovative technology offers an ultra-wide field of view while using all optical distortion correction to remove barrel distortion without using software...

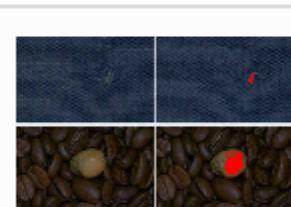
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Alluxa Ultra Series Filters and Coatings

Alluxa
Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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Euresys' Deep Learning Software Libraries

Euresys SA
Euresys is proud to announce the availability of a new Deep Learning library: EasySegment. EasySegment works in unsupervised mode. After being trained with "good" images only, it can detect and segment anomalies and defects in new images. EasySegment works with any image resolution, supports data augmentation and masks, and is compatible with CPU and GPU processing.

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High Performance Filters for Machine Vision

Chroma Technology Corp.
ContrastMax filters from Chroma feature sputtered interference coatings engineered for automated vision applications like machine vision and robotic guidance. These optical filters offer superior levels of contrast and blocking of unwanted light, while also performing well at wide viewing angles.

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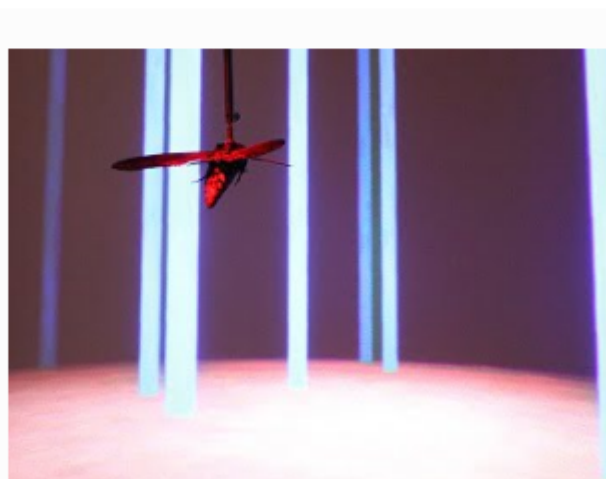
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More Vision News

Moth Flight Patterns Help Drones Navigate Complex Environments

Researchers from Boston University have captured data from moth flight patterns to improve drone navigation through complex environments. To understand how moths plan their route, the researchers, led by Ioannis Paschaliadis at BU and Thomas Daniel at the University of Washington, mounted eight hawk moths on metal rods connected to a torque meter. In front of each moth they projected a moving forest scene created from beams of light for the moths to navigate.



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Using Microwave Metamaterials in Machine Learning Speeds Object Recognition

A new approach to object identification, developed by researchers at Duke University and the Institut de Physique de Nice (INPHYNI), enables joint learning of optimal measurement strategies and a matching processing algorithm, and uses inferred knowledge about task, scene, and measurement constraints to improve the accuracy of object recognition tasks while using a limited number of measurements.

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Deep Learning Enables Real-Time Imaging Around Corners

A team of U.S. researchers has created a laser-based system able to image around corners in real time. With further development, the system may allow self-driving cars to look around parked cars or busy intersections to see hazards or pedestrians.

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Coming in the Next Issue...

Features

Defect Inspection, AI, 3D Imaging, and more.

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Vision Spectra*. Please submit a brief 100-word abstract to visionspectra@photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

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