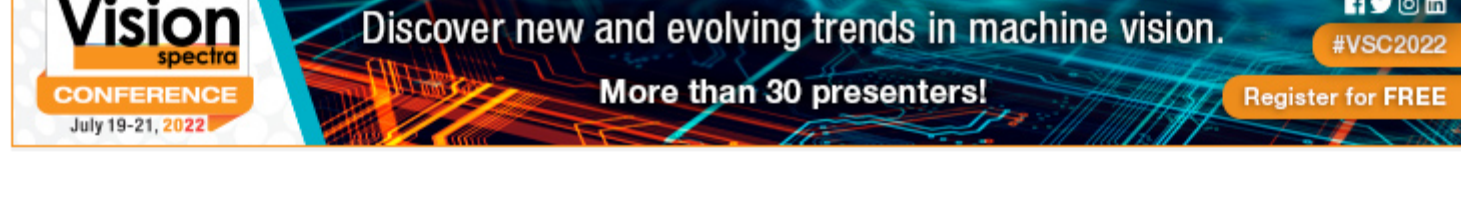




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Assessing Food Inspection Techniques

Providing safe, high-quality food requires inspection of food products. In the past, people relied on human senses to judge food based on its appearance, smell, and texture. But with today's more advanced inspection methods, it is not only possible to grade products based on color, texture, moisture content, and internal features but also on contents such as fat, sugar, or even glucose level, without damaging the food product.

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Navigating the Options for 3D Imaging

A useful way to think about 3D sensing and imaging systems is to understand that in virtually all of these components the 3D information is derived by processing one or more 2D images, often with associated unique and very specific illumination strategies. Put more cleverly, "3D is 2D." It may seem like a trivial point, but this detail will help to clarify the various available imaging techniques and their strengths and limitations.

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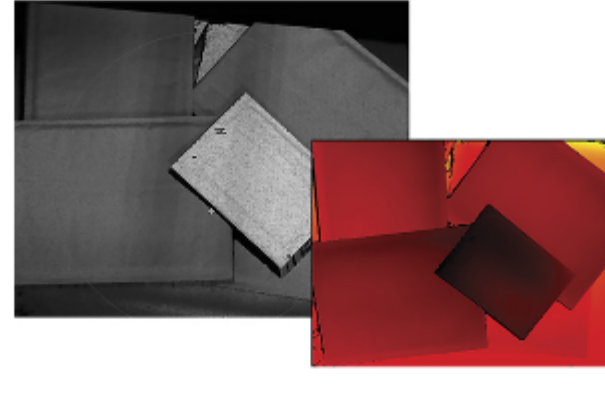
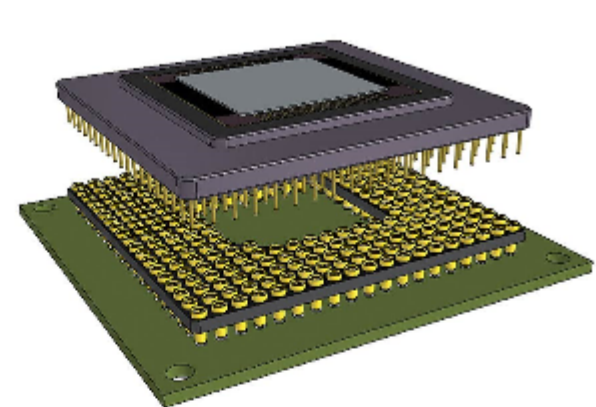


Image Sensor Sockets: A Key Factor in Camera Design

Camera makers — and, therefore, image sensor makers — today are under greater pressure than ever to offer new models that provide higher resolution and higher speed, respectively. With higher resolution comes sharper images. With higher speed, comes the ability to capture moving images with greater clarity than ever before.

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About Vision Spectra



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 & Services



Open eVision Analysis Libraries

Euresys SA
Open eVision is a suite of reliable, powerful, and flexible software tools dedicated to image processing and analysis. Open eVision contains a set of 64-bit and 32-bit libraries for C++ and .NET (C#, VB.NET, C++/CLI) under Windows and 64-bit libraries for Linux (x86-64).

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10 GigE camera series mvBlueCOUGAR-XT

MATRIX VISION GmbH
The mvBlueCOUGAR-XT camera series combines a 10GigE interface with the performance of modern

image sensor technology and resistant IP67 housing for the industrial environment. Camera models are available with Sony Pregius S Gen4 CMOS sensors from 5.1 MP to 24.6 MP.

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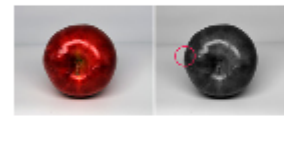


ML610M 2/3" 4K Varifocal Covers 3 Primes

Theia Technologies
Theia's ML610M offers the versatility of a varifocal lens without sacrificing the high resolution performance needed in machine vision applications. The ML610M lens furnishes a 6-10mm focal range providing 51 to 87 degrees horizontal field of view on the 2/3" sensor. The lens covers focal lengths of up to 3 prime...

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Seiya Optical Infrared Optics

Seiya Optical America

Inc.
Seiya introduces new SWIR lens and camera series. SWIR lenses have a super wide focal length 6 mm and 8 mm and low distortion of 0.7% and 1.1%. This SWIR lens and camera series is ideal for quality assurance and material analysis for a wide variety of industries including semiconductor, biomedical, and agriculture...

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C-RED 2 Extended Range: New Perspectives in SWIR Imaging

First Light Imaging SAS
While standard InGaAs detectors cover a spectral range from 900 to 1700 nm, ER-InGaAs detector sensitivity is shifted towards higher wavelengths up to 2200 nm, and this is a real breakthrough in the SWIR imaging. C-RED 2 Extended Range (ER) is a highly sensitive extended short wave infrared camera developed as a versatile...

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25GigE Camera: 98 fps at 24.47 MP

Emergent Vision

Technologies Inc.
Could your imaging or machine vision system benefit from a camera that captures nearly 25 MP images at 98 fps? Based on the back-illuminated 24.47 MP Sony Pregius S IMX530 CMOS sensor, the HB-25000-SB camera delivers distortion-free, high-quality imaging performance.

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Mini Lenses for Robotic Precision

Marshall Electronics Inc.,

Optical Systems
Marshall Electronics' Optical miniature lenses provide precise robotic, machine vision positioning X, Y, Z. Robotic and machine vision products cannot perform to specification without high and consistent optical performance. Our high quality glass element aluminum housing lenses, with and without glass filter produced in...

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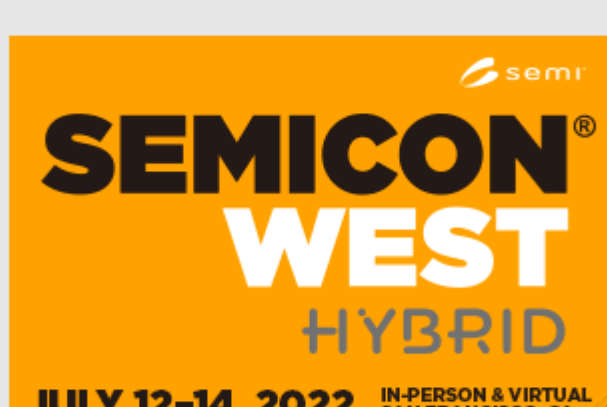
Alluxa Ultra Series Filters and Coatings

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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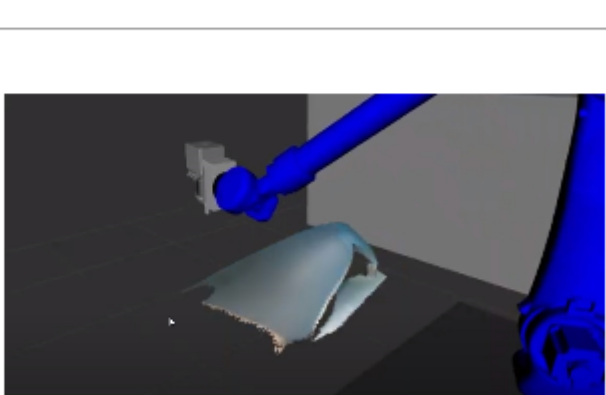


More Vision News

Image Processing Helps Industrial Robots Process, Classify

Automation technology developed at Southwest Research Institute (SwRI) enables industrial robots to visually classify and autonomously perform tasks. The technology can be applied to grinding, painting, polishing, cleaning, welding, sealing, and other industrial processes. According to the SwRI R&D team, the solution increases process repeatability and decreases the need for rework, while also reducing human exposure to dangerous environments.

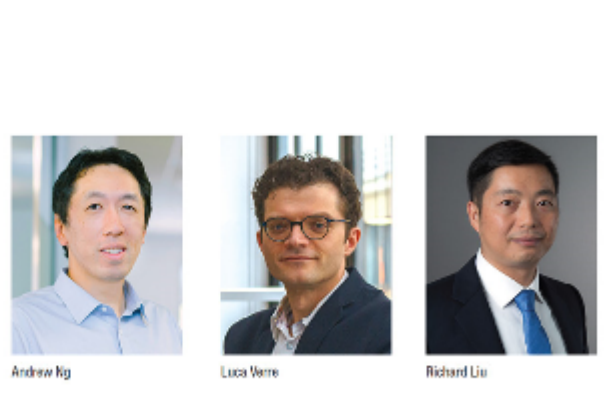
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AI Pioneer Andrew Ng Headlines Vision Spectra Conference '22

By harnessing the power of "good" data over "big" data, manufacturers with limited data sets can use machine vision for quality inspection. This is the premise of the keynote address to be delivered by globally recognized AI visionary Andrew Ng for the second annual Vision Spectra Conference (VSC), which will be held online July 19-21. Attendees will hear from more than 30 brilliant speakers and discover new, innovative companies that are transforming the industry.

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Sensor Offers Spin on Conventional Time-of-Flight Imaging

A time-of-flight sensor developed by technology company Toppan and its Shizuoka University-spinoff subsidiary Brookman Technology uses a short-pulse modulation method to enable distance calculation up to 20 m in high brightness conditions and up to 30 m in indoor lighting conditions. The technology is expected to extend the practical use of image sensors and cameras for autonomous drones and other industrial applications, the companies said.

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Deep Learning Enables Structured Light 3D Polarimetric Imaging

Researchers at Nanjing University of Science and Technology demonstrated a dual-frequency multiplexing fringe projection profilometry (FPP) technique that is enabled by deep learning. The researchers said their approach to FPP, which is a noncontact measurement technique for 3D imaging, enabled single-shot, unambiguous, high-precision, structured light 3D imaging.

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Features

3D Sensing for Logistics, Smart Cameras, Vision-Guided Robotics, and more.

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