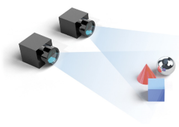
Thursday, September 24, 2020

Vision spectra

PHOTONICS MEDIA photonics.com

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.

Coherent Sensing Holds Promise for Machine Vision



Supply chain disruptions during the COVID-19 pandemic have been a wake-up call for most, resulting in the acceleration of the onshoring trend started by the U.S.-China tensions. Offsetting higher wage structures with automation is key to a sustained home-based manufacturing business. Luckily, manufacturing robotics has come a long way in the last decade, in part enabled by new technologies such as 3D machine vision. While most of today's 3D vision systems still suffer from significant trade-offs in terms of range, eye safety, crosstalk immunity, and precision, a new approach using a coherent-sensing technique provides promising relief.

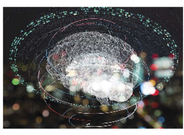
Read Article

Hyperspectral Imaging Discerns Authenticity of Artwork

Inauthentic artwork is a significant problem within the art world. According to the Fine Arts Expert Institute, as many as half of the pieces in the art market are forgeries, equaling roughly $60 billion in inauthentic work. Current authentication processes, however, are often time-consuming and expensive.

Read Article

Optimal Defect Detection with Deep Learning



Technologies based on artificial intelligence are used in many industries today. For example, deep learning methods based on convolutional neural networks are used in machine vision, making it possible to detect and localize objects and defects in a more targeted manner across the entire industrial value chain. Alternatively, rule-based systems can also be employed. For defect detection, however, these systems may have to cover a large number of error characteristics, which causes a need for an extremely high programming effort.

Read Article

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.

Visit Photonics.com/subscribe to manage your Photonics Media membership.

View Digital Edition | Manage Membership

.: Featured Products

Machine Vision

Photonics Media
Machine Vision is a new book for anyone designing or selecting machine vision systems, and implementing or considering the use of machine vision for a specific application.

Visit Website | Request Info

New Compact Coaxlink CXP-12 Frame Grabbers

Euresys SA
Coaxlink Mono CXP-12 and Duo CXP-12 are one- and two-connection CoaXPress 2.0 frame grabbers complementing the four-connection Coaxlink Quad CXP-12, already available.

Visit Website | Request Info

.: More Vision News

Army Robot Detects and Shares Environmental Changes, Potential Danger, with Human Teammate in Real Time

The robotic component of a human-robot team designed by the U.S. Army is capable of detecting physical changes in 3D and sharing the information it collects with a human in real time. Augmented reality enables the delivery of information, allowing the human recipient to assess the information and promptly determine action steps.

Read Article

Cameras Record Object Density More Accurately

Crowd counting — the process of obtaining information on the density or number of objects such as vehicles or people — can benefit from the same deep learning techniques that have been used for image and video processing. Scientists at Japan Advanced Institute of Science and Technology, in collaboration with researchers at Sirindhorn International Institute of Technology in Thailand, developed a way to achieve higher performance in crowd counting by using a backward connection in a deep neural network.

Read Article

Scaling Lidar Imaging for Autonomous Cars, Smartphones, Other Applications

A silicon chip with a serpentine optical phased array, developed by researchers at the University of Colorado Boulder, could improve the resolution and scanning speed of lidar systems while reducing bulkiness, making them scalable for a range of applications.

Read Article

.: Upcoming Webinars

Launching a Machine Vision Project
Wed, Nov 4, 2020 1:00 PM - 2:00 PM EST
By reviewing the basics of machine vision, including hardware, software and design services, this webinar with Paul Scardino and Greg Matherly of Baumer will help end users and designers alike to evaluate the available technology options for machine vision applications. Learn how to choose the most cost-effective approach and determine when the project can be solved with in-house resources, or when it requires special design knowledge and support. This webinar is sponsored by Teledyne DALSA, Specim Spectral Imaging Ltd., FOCtek Photonics Inc., and Omega Optical LLC.

Register Now

.:Next Issue:

Features
3D Vision, Multispectral Imaging, Vision in the Smart Factory, and more.

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