UKIVA Conference programme offers rich and varied content

The Conference programme for the UKIVA Machine Vision Conference and Exhibition, which takes place on Thursday 6th June 2019 at the Marshall Arena, Milton Keynes, features 57 seminars across 8 different technology-themed presentation theatres. Dr Luca Benedetti from artificial perception technology specialists, Kudan, will deliver a Keynote entitled 'Visual SLAM in the Wild'. SLAM refers to the process of determining the position and orientation (localisation) of a sensor with respect to its surroundings, as well as simultaneously building a map of the surrounding environment.

New for 2019: Vision in Robotics

The new '*Vision in Robotics'* theatre has been introduced to reflect the growing importance of this topic and will include a contribution from BARA (British Automation and Robot Association). Presentations will include the application of 3D stereo vision in robot applications, in particular for bin picking and part handling. The increasing use of cobots will also be covered. There will also be opportunity to find out how deep learning methods are being integrated into vision and robot applications. The importance of HD digital transmission is discussed for robot applications where fast transmission and long cable distances are involved.

High profile vision technologies

The other presentation theatres cover a number of technology themes (full details at: www.machinevisionconference.co.uk/programme) with many of the underlying technologies appearing across several of these theatres. Deep learning and embedded vision continue to be hot topics in the industry. This year delegates can explore the crossover between deep learning and embedded vision with the emergence of 'inference' cameras, where deep learning capabilities are available within the camera itself. There are also sessions on deep neural network training, practical usage in the automotive food and packaging industries, deep learning vision solutions in the context of Industry 4.0 and AI-based vision systems in logistics applications. Contributions on embedded vision will focus on how they differ from PC-based systems and where they can and can't be usefully deployed. With 3D Vision firmly established as a core vision technology, the Conference looks at how different types of 3D imaging suit different applications and how to specify and design a 3D system. There are special multi-view techniques that can be used for objects that are larger than the field of view, and at the other end of the spectrum there is 3D microscopy. The increasing cross-over between low cost consumer 3D sensors and machine vision will also be explored.

Vision components, systems, applications and innovation

Camera Technology covers the latest camera interfaces such as CoaXPress and 5GigE, ultra-high resolution cameras, multi-sensor prism cameras and cameras designed for use in extreme temperatures and harsh environments. Some recent developments in lens design to combat shock and vibration and correct distortion will also be discussed, while the importance of consistent lighting for reliable and repeatable results and the use of different illumination wavelengths to reveal hidden information are popular topics. Some very interesting innovations will also be highlighted including the use of polarisation technology for challenging inspection applications. For people interested in practical applications there are many examples of the use of systems in the pharmaceutical, food, automotive, packaging and logistics industries.

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