

PRESS RELEASE

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7th European Machine Vision Forum in Mulhouse, France - Key Takeaways

Barcelona, November 29th, 2024. In line with this year's focus topic, the 7th European Machine Vision Forum on November 7-8 in Mulhouse which was organized by the EMVA offered inspiring insights into methods and applications of computer vision for human-machine interaction. Among the topics presented and discussed were gaze estimation in industrial assembly situations, the use of brain activity as an additional input modality, operating interfaces of vision systems and special features of mobile systems. This year's contributions once again demonstrated a high quality of methodology and applications. All of the contributions contained aspects that inspired the participants to further pursue in their daily work.

Diversity of technical approaches

In the context of the focus topic, this year's forum also demonstrated the diversity of approaches, methods and applications of machine vision technologies. Topics that were compiled into separate sessions with several submissions included image-based 3D recognition of objects and the environment; machine vision on mobile systems and embedded systems; image acquisition methods (e.g. using polarimetry and multispectral

image acquisition); and machine learning, here with a focus on synthetically generated training data and a contribution on the “intelligence” of AI systems.

Main topics of the keynotes

All three keynote speeches dealt with issues that are currently subject of lively discussion in the industry. Jean-Pierre Chambard from Holo3, for example, focused on the transfer of research results into industrial applications. His quintessence: before good ideas can be implemented in industry, they need to be put into practice alongside their scientific basis, not least taking into account the requirements of the users. Maria-Theresa Licka (MAIWIY and University of Kaiserslautern) focused her keynote speech on machine vision solutions on mobile devices. Especially when it comes to applications that rely on machine learning, innovative solutions are required that take into account the boundary conditions of mobile systems; this was the tenor of her presentation. The evaluation of endoscopic image data in medical diagnostics was the topic of Christian Daul's (Université de Lorraine/CRAN) keynote speech. 2D and 3D reconstruction from image data, using the example of endoscopic examination of the stomach, improves interpretability for medical diagnosis by providing a more complete image of the organ. This combination of computer vision and human expertise results in a significant increase in performance.

Accompanying exhibition and local vision players

The presentations were complemented by an accompanying exhibition in which companies and institutions presented new hardware, methods and systems. The local machine vision community was also represented with lectures and short presentations, highlighting how machine vision is an important part of measurement and automation technology in companies and institutions in the Mulhouse area. The event location at the “École Nationale Supérieure d'Ingénieurs Sud-Alsace” ENSISA on the campus of the “Université de Haute Alsace” UHA provided a perfect setting for this, which could be visited during a tour of the laboratories.

About the European Machine Vision Forum

The European Machine Vision Forum is an annual event of the European Machine Vision Association - EMVA. The aim is to foster interaction between the machine vision industry and academic research to learn from each other, discuss the newest research results as well as challenges from applications, learn about emerging application fields, and to discuss research cooperation between industry and academic institutes. The overall aim is to accelerate innovation by translating new re-search results faster into practice. The forum is directed to scientists, development engineers, software and hardware engineers, and programmers both from research and industry.

About EMVA

Founded in 2003, the European Machine Vision Association (EMVA) is a non-for-profit and non-commercial association representing the Machine Vision industry in Europe that is open for all types of organizations having a stake in machine vision, computer vision, embedded vision or imaging technologies: manufacturers, system and machine builders, integrators, distributors, consultancies, research organizations and academia. The EMVA hosts four international vision standards, and all members – as the 100% owners of the association – benefit from the dedicated networking, standardization, and cooperation activities of the EMVA. www.emva.org.