Interactive Visual Media Processing

The Interactive Visual Media Processing (IVMP) group is a world leader in developing coding, estimation and post-processing technologies for visual media, including images, video and higher dimensional media such as volumetric and plenoptic content.

Competitive advantage

Technology is widely deployed for both civilian and defence applications with multiple coding technologies that have been and are being standardised internationally, as well as a wide range of software systems for compression, estimation, interactive communication and post-processing of visual media, including the commercially successful Kakadu toolkit.

Technologies include:

- Scalable and accessible compression technologies
- Motion, depth and illuminant estimation for video and camera arrays
- Interactive visual communication for remote browsing of huge media, and
- Interpolation, denoising and analysis

Impact

- Faster image-based communication

Successful applications

- Kakadu Software toolkit for JPEG 2000, which is licensed to more than 400 commercial organisations and continues to gain traction
- JPIP technology for robust interactive image and video communication, which has been deployed on the battlefield by defence equipment manufacturers, as well as in many other sectors
- FBCOT algorithm, which has recently been adopted as the foundation of the new JPH image coding standard, which will become ISO/IEC CD 15444-15 (committee draft released July 2018)

Capabilities and facilities

- The IVMP media processing laboratory is equipped with high resolution camera arrays, extensive fibre cabling, advanced Intel server platforms, controlled lighting and multi-projector visualisation equipment.

More Information

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