Video compression systems

Bock, Alois M., author

Abstrak

Digital video compression has revolutionised the broadcast industry. Its implementation has been the vital key to the expansion of video via satellite, cable, internet and terrestrial TV. However, new technologies not only enable new applications, they also create new challenges such as how to measure video quality, and how to maintain video quality in concatenated compression systems.
Video Compression Systems provides an overview on many issues concerning today's complex digital video systems: from video quality measurements to statistical multiplexing, from pre-processing to transcoding and concatenation. It explains video compression systems from first principles and gives a detailed summary of currently used MPEG standards, as well as non-MPEG algorithms. Furthermore, it provides a summary of motion estimation algorithms and explains processing priorities for mobile applications, HDTV, contribution and distribution systems, as well as for end user systems.
Video Compression Systems focuses intentionally on the principles rather than the mathematics in order to make it more readable and accessible to a wider audience. It is aimed at senior undergraduate students taking modules in video technologies, multimedia processing or video compression, as well as television engineers working on video compression systems.