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# Efficient video compression techniques

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Video coding is widely used in a variety of applications such as TV streaming, online gaming, virtual reality tours and video conferencing. These applications require good compression techniques so the communication bitrate is reduced without compromising the quality. H.264 has been dominating on many video applications since it was released in 2003. It showed high coding efficiency and reliability especially for standard-definition streaming. The H.264 and VP8 are designed mainly for resolutions lower than High Definition (HD); however, the resolutions nowadays and in the near future demand codecs that are designed to support HD resolutions in addition to Ultra High Definition (UHD). This led to one of the most popular codecs High-Efficiency Video Coding (HEVC) that was released in its first edition in 2013. As video compression is an open competition area and many codec developers are working on codecs developing. The giant Google company has also an important share in the field of video compression by its codec VP9. Google started developing the codec in 2011 as an improved successor of VP8 and released in 2013. Many video coding techniques are available nowadays, however, coding efficiency and complexity are vey important factors that affect selecting a codec. New approaches proposed to decrease the time complexity of encoding, one is done by jointly reducing the number of inter-modes and reference frames. After analyzing the likelihood of selecting inter-modes and reference frames, we arrange them in likelihood levels and check lower levels only if an RD cost condition is satisfied.

## Biography

Ahmad A Mazhar has been a member of the College of Computing and Informatics at Saudi Electronic University since 2015. He has more than ten years teaching experience. He received his PhD in 2013 from De Montfort University, UK, Master's degree in Computer Science from Al- Balqa' Applied University, Salt, Jordan and his Bachelor's degree in Computer Science from Al-Zaytoonah University, Amman, Jordan. He has several publications in video compression and analysis.

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