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Inter prediction multiple reference frames impact on H266-VVC encoder

Rana Jassem[1,2] · **Taheni Damak**[1] · **Mohamed Ali Ben Ayed**[1] · **Nouri Masmoudi**[3]

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Abstract
This paper presents Inter prediction Multiple Reference Frames Impact on H266-versitele video coding (VVC) encoder. Video compression plays a crucial role in storing and transmitting video content. Recent developments in video coding have led to the development of the H266-VVC encoder, which aims to achieve greater compression efficiency than its predecessors. One of the key features of the H266-VVC encoder is its inter prediction method, which uses previously encoded frames as reference frames. Multiple reference frames are used in this study to determine how they affect the performance of the H266-VVC encoder. The use of the multiple reference frames, increases compression efficiency by providing more information for inter-prediction. The encoder must compare more frames to find the best match when using multiple reference frames, so it also increases the encoding time. To achieve the best compression efficiency and encoding speed, a trade-off between reference frame number and encoding time must be taken into account when selecting the number of reference frames to use in the H266-VVC encoder.

Keywords VVC standard · Inter prediction · Motion estimation · Multiple reference frame

✉ Taheni Damak
taheni.dammak@enetcom.usf.tn

Rana Jassem
ana.mohammed@uobasrah.edu.iq

Mohamed Ali Ben Ayed
mohamedali.benayed@enetcom.usf.tn

Nouri Masmoudi
nouri.masmoudi@enis.rnu.tn

[1] Nouvelles Technologies Et Systèmes Des Télécommunications (NTS'Com), Sfax University, Sfax, Tunisia

[2] Department of Computer Science, College of Education for Pure Sciences, University of Basrah, Basrah, Iraq

[3] Laboratoire d'Electroniqueet Des Technologies de L'Information(LETI), Sfax University, Sfax, Tunisia

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