

AlphaVC: High-Performance and Efficient Learned Video Compression

– Supplementary Material –

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1 Network Structure of Entropy Modules

The structure of the residual entropy module and motion prediction is shown in Fig. 1. Different entropy modules have similar structures and different prior information (See Eqs. (2, 3)).

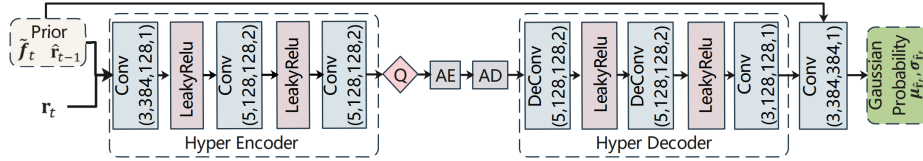


Fig. 1: Network structure of the residual entropy module.

2 Configuration of IPP/LDP

The configurations for traditional methods of IPP and LDP mode in one GoP are shown in Table 1. We can see that the IPP mode only references the previous 1 frame(References) and each P-frame has the flat QP. The LDP mode references multiple previous frames(References) and has dynamic QP(QPoffset).

Table 1: GoP configuration of IPP/LDP mode in VVC and HEVC.

	Frame	Type	POC	QPOffset	QPOffsetModelOff	QPOffsetModelScale	References
IPP	Frame1	P	1	2	0.0	0.0	1
	Frame1	P	1	5	-6.5	0.2590	1,9,17,25
	Frame2	P	2	4	-6.5	0.2590	1,2,10,18
	Frame3	P	3	5	-6.5	0.2590	1,3,11,19
LDP	Frame4	P	4	4	-6.5	0.2590	1,4,12,20
	Frame5	P	5	5	-6.5	0.2590	1,5,13,21
	Frame6	P	6	4	-6.5	0.2590	1,6,14,22
	Frame7	P	7	5	-6.5	0.2590	1,7,15,23
	Frame8	P	8	1	0.0	0.0	1,8,16,24