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Set partitioning in hierarchical trees

From Wikipedia, the free encyclopedia
(Redirected from Set Partitioning in Hierarchical Trees)

Set partitioning in hierarchical trees (**SPIHT**)[1][2] is an image compression algorithm that exploits the inherent similarities across the subbands in a wavelet decomposition of an image.

Contents [hide]

General description [edit]

The algorithm codes the most important wavelet transform coefficients first, and transmits the bits so that an increasingly refined copy of the original image can be obtained progressively.

See also [edit]

- EZW

References [edit]

1. ^ Said, Amir; Pearlman, William A. (June 1996). "A new fast and efficient image codec based on set partitioning in hierarchical trees". *IEEE Transactions on Circuits and Systems for Video Technology* **6** (3): 243–250. doi:10.1109/76.499834. ISSN 1051-8215.
2. ^ http://reference.kfupm.edu.sa/content/n/e/a_new_fast_and_e_cient_image_codec_based_661859.pdf

External links [edit]

- SPIHT implementation in C++ by René Puchinger

v · t · e	**Data compression methods**	[hide]
Lossless	Entropy type	Unary · Arithmetic · Golomb · Huffman (Adaptive · Canonical · Modified) · Range · Shannon · Shannon–Fano · Shannon–Fano–Elias · Tunstall · Universal (Exp-Golomb · Fibonacci · Gamma · Levenshtein)
	Dictionary type	Byte pair encoding · DEFLATE · Lempel–Ziv (LZ77 / LZ78 (LZ1 / LZ2) · LZJB · LZMA · LZO · LZRW · LZS · LZSS · LZW · LZWL · LZX · LZ4 · Statistical)
	Other types	BWT · CTW · Delta · DMC · MTF · PAQ · PPM · RLE
Audio	Concepts	Bit rate (average (ABR) · constant (CBR) · variable (VBR)) · Companding · Convolution · Dynamic range · Latency · Nyquist–Shannon theorem · Sampling · Sound quality · Speech coding · Sub-band coding
	Codec parts	A-law · µ-law · ACELP · ADPCM · CELP · DPCM · Fourier transform · LPC (LAR · LSP) · MDCT · Psychoacoustic model · WLPC
Image	Concepts	Chroma subsampling · Coding tree unit · Color space · Compression artifact · Image resolution · Macroblock · Pixel · PSNR · Quantization · Standard test image
	Methods	Chain code · DCT · EZW · Fractal · KLT · LP · RLE · **SPIHT** · Wavelet
Video	Concepts	Bit rate (average (ABR) · constant (CBR) · variable (VBR)) · Display resolution · Frame · Frame rate · Frame types · Interlace · Video characteristics · Video quality
	Codec parts	Lapped transform · DCT · Deblocking filter · Motion compensation
Theory	Entropy · Kolmogorov complexity · Lossy · Quantization · Rate–distortion · Redundancy · Timeline of information theory	
	Compression formats · Compression software (codecs)	

Categories: Image compression | Wavelets

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