ToolboxDESC

This toolbox includes implementation of the local descriptors described in the paper below:

- Cigdem Turan and Kin-Man Lam, "Histogram-based Local Descriptors for Facial Expression Recognition (FER): A comprehensive Study," *Journal of Visual Communication and Image Representation,* 2018. doi:10.1016/j.jvcir.2018.05.024

List of the descriptors

	Abbreviation	Descriptor Name	Dimension
1	BPPC [1]	Binary Pattern of Phase Congruency	1062
2	GDP [2, 3]	Gradient Directional Pattern	256
3	GDP2 [4]	Gradient Direction Pattern	8
4	GLTeP [5, 6]	Gradient Local Ternary Pattern	512
5	IWBC [7]	Improved Weber Binary Coding	2048
6	LAP [8]	Local Arc Pattern	272
7	LBP [9]	Local Binary Pattern	59
8	LDiP [10]	Local Directional Pattern	56
9	LDiPv [11]	Local Directional Pattern Variance	56
10	LDN [12]	Local Directional Number Pattern	56
11	LDTP [13]	Local Directional Texture Pattern	72
12	LFD [14]	Local Frequency Descriptor	512
13	LGBPHS [15]	Local Gabor Binary Pattern Histogram Sequence	256
14	LGDiP [16]	Local Gabor Directional Pattern	280 *
15	LGIP [17]	Local Gradient Increasing Pattern	37
16	LGP [18]	Local Gradient Pattern	7
17	LGTrP [19]	Local Gabor Transitional Pattern	256
18	LMP [20]	Local Monotonic Pattern	256
19	LPQ [21, 22]	Local Phase Quantization	256
20	LTeP [23]	Local Ternary Pattern	512
21	LTrP [24, 25]	Local Transitional Pattern	256
22	MBC [26, 27]	Monogenic Binary Coding	3072 *
23	MBP [23]	Median Binary Pattern	256
24	MRELBP [28]	Median Robust Extended Local Binary Pattern	800
25	MTP [23]	Median Ternary Pattern	512
26	PHOG [29]	Pyramid of Histogram of Oriented Gradients	168 *
27	WLD [30, 31]	Weber Local Descriptor	32 *

* the feature dimension used in our experiments

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