

CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS (NOTES omitted)

INSTRUMENTS

G06 COMPUTING; CALCULATING; COUNTING (NOTES omitted)

G06V IMAGE OR VIDEO RECOGNITION OR UNDERSTANDING

NOTES

- This subclass covers:
 - methods or arrangements for pattern recognition or machine learning specially adapted for images or video.
- In this subclass, the following terms or expressions are used with the meaning indicated:
 - "pattern recognition" means detection, categorisation, authentication and identification of patterns for explanatory purposes or to derive a certain meaning in images or video, by acquiring, preprocessing or extracting distinctive features and matching, clustering or classifying these features or representations thereof;
 - "feature extraction" means deriving descriptive or quantitative measures from images or video;
 - "clustering" means grouping or separating patterns according to their (dis)similarity or closeness;
 - "classification" means the identification of an object/feature as belonging to a class of objects/features by assigning of a label.
- In this subclass, subject matter classified in groups [G06V 20/00](#) - [G06V 40/00](#) is also classified in groups [G06V 10/10](#) or [G06V 10/20](#) respectively, if recognition relies on specific processing at the stages of acquisition or preprocessing.

10/00 Arrangements for image or video recognition or understanding (character recognition in images or video [G06V 30/10](#))

WARNING

Groups [G06V 10/00](#), [G06V 10/74](#), [G06V 10/77](#), [G06V 10/7792](#), [G06V 10/82](#) and [G06V 10/86](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).

All groups listed in this Warning should be considered in order to perform a complete search.

10/10 . Image acquisition (document image scanning and transmission [H04N 1/00](#); control of digital cameras [H04N 23/60](#))

WARNING

Group [G06V 10/10](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).

Group [G06V 10/10](#) is also impacted by reclassification into groups [G06V 10/00](#), [G06V 10/70](#) - [G06V 10/87](#), [G06V 10/88](#) - [G06V 10/92](#), [G06V 30/14](#) - [G06V 30/158](#), [G06V 30/199](#) and [G06V 30/20](#).

All groups listed in this Warning should be considered in order to perform a complete search.

10/12 . . Details of acquisition arrangements; Constructional details thereof

WARNING

Group [G06V 10/12](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).

Group [G06V 10/12](#) is also impacted by reclassification into groups [G06V 10/14](#) and [G06V 30/142](#).

All groups listed in this Warning should be considered in order to perform a complete search.

10/14 . . . Optical characteristics of the device performing the acquisition or on the illumination arrangements

WARNING

Group [G06V 10/14](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 10/12](#).

Groups [G06F 18/00](#), [G06V 10/12](#) and [G06V 10/14](#) should be considered in order to perform a complete search.

- 10/141 Control of illumination
- WARNING**
- Group [G06V 10/141](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/141](#) is also impacted by reclassification into group [G06V 30/1431](#).
- Groups [G06F 18/00](#), [G06V 10/141](#) and [G06V 30/1431](#) should be considered in order to perform a complete search.
- 10/143 Sensing or illuminating at different wavelengths
- WARNING**
- Group [G06V 10/143](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/143](#) is also impacted by reclassification into group [G06V 30/1429](#).
- Groups [G06F 18/00](#), [G06V 10/143](#) and [G06V 30/1429](#) should be considered in order to perform a complete search.
- 10/145 Illumination specially adapted for pattern recognition, e.g. using gratings
- WARNING**
- Group [G06V 10/145](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/145](#) is also impacted by reclassification into group [G06V 30/1434](#).
- Groups [G06F 18/00](#), [G06V 10/145](#) and [G06V 30/1434](#) should be considered in order to perform a complete search.
- 10/147 Details of sensors, e.g. sensor lenses (fingerprint or palmprint sensors [G06V 40/13](#); vascular sensors [G06V 40/145](#); eye sensors [G06V 40/19](#))
- WARNING**
- Group [G06V 10/147](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/147](#) is also impacted by reclassification into groups [G06V 30/1429](#) and [G06V 30/1437](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/16 . . {using multiple overlapping images; Image stitching}
- WARNING**
- Group [G06V 10/16](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/16](#) is also impacted by reclassification into group [G06V 30/141](#).
- Groups [G06F 18/00](#), [G06V 10/16](#) and [G06V 30/141](#) should be considered in order to perform a complete search.
- 10/17 . . {using hand-held instruments}
- WARNING**
- Group [G06V 10/17](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/17](#) is also impacted by reclassification into group [G06V 30/142](#).
- Groups [G06F 18/00](#), [G06V 10/17](#) and [G06V 30/142](#) should be considered in order to perform a complete search.
- 10/19 . . {by sensing codes defining pattern positions}
- WARNING**
- Group [G06V 10/19](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/19](#) is also impacted by reclassification into group [G06V 30/1426](#).
- Groups [G06F 18/00](#), [G06V 10/19](#) and [G06V 30/1426](#) should be considered in order to perform a complete search.
- 10/20 . Image preprocessing
- WARNING**
- Group [G06V 10/20](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/20](#) is also impacted by reclassification into groups [G06V 10/00](#), [G06V 10/70 - G06V 10/87](#), [G06V 10/88 - G06V 10/92](#), [G06V 30/16 - G06V 30/168](#), [G06V 30/199](#) and [G06V 30/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- 10/22 . . . by selection of a specific region containing or referencing a pattern; Locating or processing of specific regions to guide the detection or recognition
- WARNING**
- Group [G06V 10/22](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/22](#) is also impacted by reclassification into group [G06V 30/1444](#).
- Groups [G06F 18/00](#), [G06V 10/22](#) and [G06V 30/1444](#) should be considered in order to perform a complete search.
- 10/225 . . . {based on a marking or identifier characterising the area}
- WARNING**
- Group [G06V 10/225](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/225](#) is also impacted by reclassification into group [G06V 30/1448](#).
- Groups [G06F 18/00](#), [G06V 10/225](#) and [G06V 30/1448](#) should be considered in order to perform a complete search.
- 10/23 . . . {based on positionally close patterns or neighbourhood relationships}
- WARNING**
- Group [G06V 10/23](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/23](#) is also impacted by reclassification into group [G06V 30/1452](#).
- Groups [G06F 18/00](#), [G06V 10/23](#) and [G06V 30/1452](#) should be considered in order to perform a complete search.
- 10/235 . . . {based on user input or interaction}
- WARNING**
- Group [G06V 10/235](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/235](#) is also impacted by reclassification into group [G06V 30/1456](#).
- Groups [G06F 18/00](#), [G06V 10/235](#) and [G06V 30/1456](#) should be considered in order to perform a complete search.
- 10/24 . . . Aligning, centring, orientation detection or correction of the image
- WARNING**
- Group [G06V 10/24](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/24](#) is also impacted by reclassification into group [G06V 30/146](#).
- Groups [G06F 18/00](#), [G06V 10/24](#) and [G06V 30/146](#) should be considered in order to perform a complete search.
- 10/242 . . . {by image rotation, e.g. by 90 degrees}
- WARNING**
- Group [G06V 10/242](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/242](#) is also impacted by reclassification into group [G06V 30/1463](#).
- Groups [G06F 18/00](#), [G06V 10/242](#) and [G06V 30/1463](#) should be considered in order to perform a complete search.
- 10/243 . . . {by compensating for image skew or non-uniform image deformations}
- WARNING**
- Group [G06V 10/243](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/243](#) is also impacted by reclassification into group [G06V 30/1475](#).
- Groups [G06F 18/00](#), [G06V 10/243](#) and [G06V 30/1475](#) should be considered in order to perform a complete search.
- 10/245 . . . {by locating a pattern; Special marks for positioning}
- WARNING**
- Group [G06V 10/245](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/245](#) is also impacted by reclassification into groups [G06V 30/1448](#), [G06V 30/1465](#), [G06V 30/1468](#), [G06V 30/1475](#) and [G06V 30/1478](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/247 . . . {by affine transforms, e.g. correction due to perspective effects; Quadrilaterals, e.g. trapezoids}
- WARNING**
- Group [G06V 10/247](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/247](#) is also impacted by reclassification into group [G06V 30/1607](#).
- Groups [G06F 18/00](#), [G06V 10/247](#) and [G06V 30/1607](#) should be considered in order to perform a complete search.

- 10/248 . . . {by interactive preprocessing or interactive shape modelling, e.g. feature points assigned by a user}
- WARNING**
- Group [G06V 10/248](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/248](#) is also impacted by reclassification into group [G06V 30/1613](#).
- Groups [G06F 18/00](#), [G06V 10/248](#) and [G06V 30/1613](#) should be considered in order to perform a complete search.
- 10/25 . . Determination of region of interest [ROI] or a volume of interest [VOI]
- WARNING**
- Group [G06V 10/25](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/25](#) is also impacted by reclassification into group [G06V 30/147](#).
- Groups [G06F 18/00](#), [G06V 10/25](#) and [G06V 30/147](#) should be considered in order to perform a complete search.
- 10/255 . . {Detecting or recognising potential candidate objects based on visual cues, e.g. shapes}
- WARNING**
- Group [G06V 10/255](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/255](#) is also impacted by reclassification into group [G06V 30/1473](#).
- Groups [G06F 18/00](#), [G06V 10/255](#) and [G06V 30/1473](#) should be considered in order to perform a complete search.
- 10/26 . . Segmentation of patterns in the image field; Cutting or merging of image elements to establish the pattern region, e.g. clustering-based techniques; Detection of occlusion
- WARNING**
- Group [G06V 10/26](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/26](#) is also impacted by reclassification into group [G06V 30/148](#).
- Groups [G06F 18/00](#), [G06V 10/26](#) and [G06V 30/148](#) should be considered in order to perform a complete search.
- 10/267 . . . {by performing operations on regions, e.g. growing, shrinking or watersheds}
- WARNING**
- Group [G06V 10/267](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/267](#) is also impacted by reclassification into group [G06V 30/15](#).
- Groups [G06F 18/00](#), [G06V 10/267](#) and [G06V 30/15](#) should be considered in order to perform a complete search.
- 10/273 . . . {removing elements interfering with the pattern to be recognised}
- WARNING**
- Group [G06V 10/273](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/273](#) is also impacted by reclassification into group [G06V 30/155](#).
- Groups [G06F 18/00](#), [G06V 10/273](#) and [G06V 30/155](#) should be considered in order to perform a complete search.
- 10/28 . . Quantising the image, e.g. histogram thresholding for discrimination between background and foreground patterns
- WARNING**
- Group [G06V 10/28](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/28](#) is also impacted by reclassification into group [G06V 30/162](#).
- Groups [G06F 18/00](#), [G06V 10/28](#) and [G06V 30/162](#) should be considered in order to perform a complete search.
- 10/30 . . Noise filtering
- WARNING**
- Group [G06V 10/30](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/30](#) is also impacted by reclassification into group [G06V 30/164](#).
- Groups [G06F 18/00](#), [G06V 10/30](#) and [G06V 30/164](#) should be considered in order to perform a complete search.
- 10/32 . . Normalisation of the pattern dimensions
- WARNING**
- Group [G06V 10/32](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/32](#) is also impacted by reclassification into group [G06V 30/166](#).
- Groups [G06F 18/00](#), [G06V 10/32](#) and [G06V 30/166](#) should be considered in order to perform a complete search.

- 10/34 . . Smoothing or thinning of the pattern;
Morphological operations; Skeletonisation
- WARNING**
- Group [G06V 10/34](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/34](#) is also impacted by reclassification into group [G06V 30/168](#).
- Groups [G06F 18/00](#), [G06V 10/34](#) and [G06V 30/168](#) should be considered in order to perform a complete search.
- 10/36 . . Applying a local operator, i.e. means to operate on image points situated in the vicinity of a given point; Non-linear local filtering operations, e.g. median filtering
- WARNING**
- Group [G06V 10/36](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/36](#) is also impacted by reclassification into group [G06V 30/20](#).
- Groups [G06F 18/00](#), [G06V 10/36](#) and [G06V 30/20](#) should be considered in order to perform a complete search.
- 10/40 . . Extraction of image or video features
- WARNING**
- Group [G06V 10/40](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/40](#) is also impacted by reclassification into groups [G06V 10/54](#) and [G06V 30/18](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/42 . . Global feature extraction by analysis of the whole pattern, e.g. using frequency domain transformations or autocorrelation
- WARNING**
- Group [G06V 10/42](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/42](#) is also impacted by reclassification into group [G06V 30/186](#).
- Groups [G06F 18/00](#), [G06V 10/42](#) and [G06V 30/186](#) should be considered in order to perform a complete search.
- 10/421 . . . {by analysing segments intersecting the pattern}
- WARNING**
- Group [G06V 10/421](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/421](#) is also impacted by reclassification into group [G06V 30/184](#).
- Groups [G06F 18/00](#), [G06V 10/421](#) and [G06V 30/184](#) should be considered in order to perform a complete search.
- 10/422 . . . for representing the structure of the pattern or shape of an object therefor
- WARNING**
- Group [G06V 10/422](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/422](#) is also impacted by reclassification into group [G06V 30/18162](#).
- Groups [G06F 18/00](#), [G06V 10/422](#) and [G06V 30/18162](#) should be considered in order to perform a complete search.
- 10/424 Syntactic representation, e.g. by using alphabets or grammars
- WARNING**
- Group [G06V 10/424](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/424](#) is also impacted by reclassification into group [G06V 30/18171](#).
- Groups [G06F 18/00](#), [G06V 10/424](#) and [G06V 30/18171](#) should be considered in order to perform a complete search.
- 10/426 Graphical representations
- WARNING**
- Group [G06V 10/426](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/426](#) is also impacted by reclassification into group [G06V 30/18181](#).
- Groups [G06F 18/00](#), [G06V 10/426](#) and [G06V 30/18181](#) should be considered in order to perform a complete search.
- 10/431 . . . {Frequency domain transformation; Autocorrelation}
- WARNING**
- Group [G06V 10/431](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/431](#) is also impacted by reclassification into group [G06V 30/187](#).
- Groups [G06F 18/00](#), [G06V 10/431](#) and [G06V 30/187](#) should be considered in order to perform a complete search.

- 10/435 . . . {Computation of moments}
- WARNING**
- Group [G06V 10/435](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/435](#) is also impacted by reclassification into group [G06V 30/188](#).
- Groups [G06F 18/00](#), [G06V 10/435](#) and [G06V 30/188](#) should be considered in order to perform a complete search.
- 10/44 . . Local feature extraction by analysis of parts of the pattern, e.g. by detecting edges, contours, loops, corners, strokes or intersections; Connectivity analysis, e.g. of connected components
- WARNING**
- Group [G06V 10/44](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/44](#) is also impacted by reclassification into groups [G06V 30/1801](#), [G06V 30/182](#), [G06V 30/1823](#), [G06V 30/1826](#), [G06V 30/1829](#), [G06V 30/1831](#), [G06V 30/1834](#) and [G06V 30/1837](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/443 . . . {by matching or filtering}
- WARNING**
- Group [G06V 10/443](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/443](#) is also impacted by reclassification into group [G06V 30/18019](#).
- Groups [G06F 18/00](#), [G06V 10/443](#) and [G06V 30/18019](#) should be considered in order to perform a complete search.
- 10/446 {using Haar-like filters, e.g. using integral image techniques}
- WARNING**
- Group [G06V 10/446](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/446](#) is also impacted by reclassification into group [G06V 30/18029](#).
- Groups [G06F 18/00](#), [G06V 10/446](#) and [G06V 30/18029](#) should be considered in order to perform a complete search.
- 10/449 {Biologically inspired filters, e.g. difference of Gaussians [DoG] or Gabor filters}
- WARNING**
- Group [G06V 10/449](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/449](#) is also impacted by reclassification into group [G06V 30/18038](#).
- Groups [G06F 18/00](#), [G06V 10/449](#) and [G06V 30/18038](#) should be considered in order to perform a complete search.
- 10/451 {with interaction between the filter responses, e.g. cortical complex cells}
- WARNING**
- Group [G06V 10/451](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/451](#) is also impacted by reclassification into group [G06V 30/18048](#).
- Groups [G06F 18/00](#), [G06V 10/451](#) and [G06V 30/18048](#) should be considered in order to perform a complete search.
- 10/454 {Integrating the filters into a hierarchical structure, e.g. convolutional neural networks [CNN]}
- WARNING**
- Group [G06V 10/454](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/454](#) is also impacted by reclassification into group [G06V 30/18057](#).
- Groups [G06F 18/00](#), [G06V 10/454](#) and [G06V 30/18057](#) should be considered in order to perform a complete search.
- 10/457 . . . {by analysing connectivity, e.g. edge linking, connected component analysis or slices}
- WARNING**
- Group [G06V 10/457](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/457](#) is also impacted by reclassification into group [G06V 30/18076](#).
- Groups [G06F 18/00](#), [G06V 10/457](#) and [G06V 30/18076](#) should be considered in order to perform a complete search.

- 10/46 . . Descriptors for shape, contour or point-related descriptors, e.g. scale invariant feature transform [SIFT] or bags of words [BoW]; Salient regional features (colour feature extraction [G06V 10/56](#))
- WARNING**
- Group [G06V 10/46](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/46](#) is also impacted by reclassification into group [G06V 30/182](#).
- Groups [G06F 18/00](#), [G06V 10/46](#) and [G06V 30/182](#) should be considered in order to perform a complete search.
- 10/462 . . . {Salient features, e.g. scale invariant feature transforms [SIFT]}
- WARNING**
- Group [G06V 10/462](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/462](#) is also impacted by reclassification into group [G06V 30/18143](#).
- Groups [G06F 18/00](#), [G06V 10/462](#) and [G06V 30/18143](#) should be considered in order to perform a complete search.
- 10/464 {using a plurality of salient features, e.g. bag-of-words [BoW] representations}
- WARNING**
- Group [G06V 10/464](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/464](#) is also impacted by reclassification into group [G06V 30/18152](#).
- Groups [G06F 18/00](#), [G06V 10/464](#) and [G06V 30/18152](#) should be considered in order to perform a complete search.
- 10/467 . . . {Encoded features or binary features, e.g. local binary patterns [LBP]}
- WARNING**
- Group [G06V 10/467](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/467](#) is also impacted by reclassification into group [G06V 30/18133](#).
- Groups [G06F 18/00](#), [G06V 10/467](#) and [G06V 30/18133](#) should be considered in order to perform a complete search.
- 10/469 . . . {Contour-based spatial representations, e.g. vector-coding}
- WARNING**
- Group [G06V 10/469](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/469](#) is also impacted by reclassification into group [G06V 30/1823](#).
- Groups [G06F 18/00](#), [G06V 10/469](#) and [G06V 30/1823](#) should be considered in order to perform a complete search.
- 10/471 {using approximation functions}
- WARNING**
- Group [G06V 10/471](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/471](#) is also impacted by reclassification into group [G06V 30/1829](#).
- Groups [G06F 18/00](#), [G06V 10/471](#) and [G06V 30/1829](#) should be considered in order to perform a complete search.
- 10/473 {using gradient analysis}
- WARNING**
- Group [G06V 10/473](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/473](#) is also impacted by reclassification into group [G06V 30/1831](#).
- Groups [G06F 18/00](#), [G06V 10/473](#) and [G06V 30/1831](#) should be considered in order to perform a complete search.
- 10/476 {using statistical shape modelling, e.g. point distribution models}
- WARNING**
- Group [G06V 10/476](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/476](#) is also impacted by reclassification into group [G06V 30/1834](#).
- Groups [G06F 18/00](#), [G06V 10/476](#) and [G06V 30/1834](#) should be considered in order to perform a complete search.
- 10/478 . . . {Contour-based spectral representations or scale-space representations, e.g. by Fourier analysis, wavelet analysis or curvature scale-space [CSS]}
- WARNING**
- Group [G06V 10/478](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/478](#) is also impacted by reclassification into groups [G06V 30/1826](#) and [G06V 30/1837](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- 10/48 . . by mapping characteristic values of the pattern into a parameter space, e.g. Hough transformation
- WARNING**
- Group [G06V 10/48](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/48](#) is also impacted by reclassification into group [G06V 30/18067](#).
- Groups [G06F 18/00](#), [G06V 10/48](#) and [G06V 30/18067](#) should be considered in order to perform a complete search.
- 10/50 . . by performing operations within image blocks; by using histograms, e.g. histogram of oriented gradients [HoG]; by summing image-intensity values; Projection analysis
- WARNING**
- Group [G06V 10/50](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/50](#) is also impacted by reclassification into group [G06V 30/18086](#).
- Groups [G06F 18/00](#), [G06V 10/50](#) and [G06V 30/18086](#) should be considered in order to perform a complete search.
- 10/507 . . . {Summing image-intensity values; Histogram projection analysis}
- WARNING**
- Group [G06V 10/507](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/507](#) is also impacted by reclassification into group [G06V 30/18095](#).
- Groups [G06F 18/00](#), [G06V 10/507](#) and [G06V 30/18095](#) should be considered in order to perform a complete search.
- 10/513 . . {Sparse representations}
- WARNING**
- Group [G06V 10/513](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/513](#) is also impacted by reclassification into group [G06V 30/1819](#).
- Groups [G06F 18/00](#), [G06V 10/513](#) and [G06V 30/1819](#) should be considered in order to perform a complete search.
- 10/52 . . Scale-space analysis, e.g. wavelet analysis (multi-scale boundary representations [G06V 10/42](#))
- WARNING**
- Group [G06V 10/52](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/52](#) is also impacted by reclassification into group [G06V 30/189](#).
- Groups [G06F 18/00](#), [G06V 10/52](#) and [G06V 30/189](#) should be considered in order to perform a complete search.
- 10/54 . . relating to texture
- WARNING**
- Group [G06V 10/54](#) is incomplete pending reclassification of documents from group [G06V 10/40](#).
- Groups [G06V 10/40](#) and [G06V 10/54](#) should be considered in order to perform a complete search.
- 10/56 . . relating to colour
- WARNING**
- Group [G06V 10/56](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/56](#) is also impacted by reclassification into group [G06V 30/18105](#).
- Groups [G06F 18/00](#), [G06V 10/56](#) and [G06V 30/18105](#) should be considered in order to perform a complete search.
- 10/58 . . relating to hyperspectral data
- WARNING**
- Group [G06V 10/58](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/58](#) is also impacted by reclassification into group [G06V 30/18114](#).
- Groups [G06F 18/00](#), [G06V 10/58](#) and [G06V 30/18114](#) should be considered in order to perform a complete search.
- 10/60 . . relating to illumination properties, e.g. using a reflectance or lighting model
- WARNING**
- Group [G06V 10/60](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/60](#) is also impacted by reclassification into group [G06V 30/18124](#).
- Groups [G06F 18/00](#), [G06V 10/60](#) and [G06V 30/18124](#) should be considered in order to perform a complete search.
- 10/62 . . relating to a temporal dimension, e.g. time-based feature extraction; Pattern tracking
- WARNING**
- Group [G06V 10/62](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Groups [G06F 18/00](#) and [G06V 10/62](#) should be considered in order to perform a complete search.

- 10/70 using pattern recognition or machine learning (optical pattern recognition or electronic computations thereof [G06V 10/88](#))
- WARNING**
- Groups [G06V 10/70](#) and [G06V 10/766](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/00](#), [G06F 18/21](#), [G06V 10/10](#), [G06V 10/20](#) and [G06V 30/194](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/72 Data preparation, e.g. statistical preprocessing of image or video features
- WARNING**
- Group [G06V 10/72](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/10](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/74 Image or video pattern matching; Proximity measures in feature spaces
- 10/75 Organisation of the matching processes, e.g. simultaneous or sequential comparisons of image or video features; Coarse-fine approaches, e.g. multi-scale approaches; using context analysis; Selection of dictionaries
- WARNING**
- Group [G06V 10/75](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/22](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/75](#) is also impacted by reclassification into groups [G06V 30/19007](#), [G06V 30/192](#), [G06V 30/196](#) and [G06V 30/198](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/751 {Comparing pixel values or logical combinations thereof, or feature values having positional relevance, e.g. template matching}
- WARNING**
- Group [G06V 10/751](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/751](#) is also impacted by reclassification into group [G06V 30/19013](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7515 {Shifting the patterns to accommodate for positional errors}
- WARNING**
- Group [G06V 10/7515](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/7515](#) is also impacted by reclassification into group [G06V 30/1902](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/752 {Contour matching}
- WARNING**
- Group [G06V 10/752](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/752](#) is also impacted by reclassification into group [G06V 30/19027](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/753 {Transform-based matching, e.g. Hough transform}
- WARNING**
- Group [G06V 10/753](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/753](#) is also impacted by reclassification into group [G06V 30/19033](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/754 {involving a deformation of the sample pattern or of the reference pattern; Elastic matching}
- WARNING**
- Group [G06V 10/754](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/754](#) is also impacted by reclassification into group [G06V 30/1904](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- 10/755 {Deformable models or variational models, e.g. snakes or active contours}
- WARNING**
- Group [G06V 10/755](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/755](#) is also impacted by reclassification into group [G06V 30/19047](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7553 {based on shape, e.g. active shape models [ASM]}
- WARNING**
- Group [G06V 10/7553](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/7553](#) is also impacted by reclassification into group [G06V 30/19053](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7557 {based on appearance, e.g. active appearance models [AAM]}
- WARNING**
- Group [G06V 10/7557](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/7557](#) is also impacted by reclassification into group [G06V 30/1906](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/757 {Matching configurations of points or features}
- WARNING**
- Group [G06V 10/757](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/757](#) is also impacted by reclassification into group [G06V 30/19067](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/758 {Involving statistics of pixels or of feature values, e.g. histogram matching}
- WARNING**
- Group [G06V 10/758](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/758](#) is also impacted by reclassification into group [G06V 30/19073](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/759 {Region-based matching}
- WARNING**
- Group [G06V 10/759](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/759](#) is also impacted by reclassification into group [G06V 30/1908](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/76 {based on eigen-space representations, e.g. from pose or different illumination conditions; Shape manifolds}
- WARNING**
- Group [G06V 10/76](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/76](#) is also impacted by reclassification into group [G06V 30/19087](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/761 {Proximity, similarity or dissimilarity measures}
- WARNING**
- Group [G06V 10/761](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/22](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- 10/762 . . using clustering, e.g. of similar faces in social networks
- WARNING**
- Group [G06V 10/762](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/23](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7625 . . . {Hierarchical techniques, i.e. dividing or merging patterns to obtain a tree-like representation; Dendograms}
- WARNING**
- Group [G06V 10/7625](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/231](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/763 . . . {Non-hierarchical techniques, e.g. based on statistics of modelling distributions}
- WARNING**
- Group [G06V 10/763](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/232](#), [G06F 18/2321](#), [G06F 18/23211](#), [G06F 18/23213](#), [G06F 18/2321](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7635 . . . {based on graphs, e.g. graph cuts or spectral clustering}
- WARNING**
- Group [G06V 10/7635](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/2323](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/764 . . using classification, e.g. of video objects
- WARNING**
- Group [G06V 10/764](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/24](#), [G06F 18/241](#), [G06F 18/2411](#), [G06F 18/2413](#), [G06F 18/24133](#), [G06F 18/24137](#), [G06F 18/2414](#), [G06F 18/24143](#), [G06F 18/24147](#), [G06F 18/2415](#), [G06F 18/24155](#), [G06F 18/243](#), [G06F 18/2431](#), [G06F 18/24317](#), [G06F 18/24323](#), [G06F 18/2433](#), [G06F 18/245](#), [G06F 18/2451](#), [G06F 18/2453](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/765 . . . {using rules for classification or partitioning the feature space}
- WARNING**
- Group [G06V 10/765](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/24765](#), [G06F 18/2163](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/766 . . using regression, e.g. by projecting features on hyperplanes
- 10/768 . . {using context analysis, e.g. recognition aided by known co-occurring patterns}
- WARNING**
- Group [G06V 10/768](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/768](#) is also impacted by reclassification into group [G06V 30/262](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/77 . . Processing image or video features in feature spaces; using data integration or data reduction, e.g. principal component analysis [PCA] or independent component analysis [ICA] or self-organising maps [SOM]; Blind source separation
- 10/771 . . . Feature selection, e.g. selecting representative features from a multi-dimensional feature space
- WARNING**
- Group [G06V 10/771](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/211](#), [G06F 18/2111](#), [G06F 18/2113](#), [G06F 18/2115](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- 10/7715 . . . {Feature extraction, e.g. by transforming the feature space, e.g. multi-dimensional scaling [MDS]; Mappings, e.g. subspace methods}
- WARNING**
- Group [G06V 10/7715](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/213](#), [G06F 18/2132](#), [G06F 18/21322](#), [G06F 18/21324](#), [G06F 18/21326](#), [G06F 18/21328](#), [G06F 18/2133](#), [G06F 18/2134](#), [G06F 18/21342](#), [G06F 18/21343](#), [G06F 18/21345](#), [G06F 18/21347](#), [G06F 18/21348](#), [G06F 18/2135](#), [G06F 18/21355](#), [G06F 18/2136](#), [G06F 18/2137](#), [G06F 18/21375](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/772 . . . Determining representative reference patterns, e.g. averaging or distorting patterns; Generating dictionaries
- WARNING**
- Group [G06V 10/772](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/28](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/774 . . . Generating sets of training patterns; Bootstrap methods, e.g. bagging or boosting
- WARNING**
- Group [G06V 10/774](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/214](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7747 {Organisation of the process, e.g. bagging or boosting}
- WARNING**
- Group [G06V 10/7747](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/2148](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7753 {Incorporation of unlabelled data, e.g. multiple instance learning [MIL]}
- WARNING**
- Group [G06V 10/7753](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/2155](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/776 . . . Validation; Performance evaluation
- WARNING**
- Group [G06V 10/776](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/217](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/778 . . . Active pattern-learning, e.g. online learning of image or video features
- WARNING**
- Group [G06V 10/778](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/217](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7784 {based on feedback from supervisors}
- WARNING**
- Group [G06V 10/7784](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/2178](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7788 {the supervisor being a human, e.g. interactive learning with a human teacher}
- WARNING**
- Group [G06V 10/7788](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/41](#), [G06F 18/2185](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/7792 {the supervisor being an automated module, e.g. "intelligent oracle"}

- 10/7796 {based on specific statistical tests}
- WARNING**
- Group [G06V 10/7796](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/2193](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/80 . . . Fusion, i.e. combining data from various sources at the sensor level, preprocessing level, feature extraction level or classification level (multimodal speaker identification or verification [G10L 17/10](#))
- WARNING**
- Group [G06V 10/80](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/25](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/803 {of input or preprocessed data}
- WARNING**
- Group [G06V 10/803](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/251](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/806 {of extracted features}
- WARNING**
- Group [G06V 10/806](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/253](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/809 {of classification results, e.g. where the classifiers operate on the same input data}
- WARNING**
- Group [G06V 10/809](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/254](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/811 {the classifiers operating on different input data, e.g. multi-modal recognition}
- WARNING**
- Group [G06V 10/811](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/256](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/814 {using belief theory, e.g. Dempster-Shafer}
- WARNING**
- Group [G06V 10/814](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/257](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/817 {by voting}
- WARNING**
- Group [G06V 10/817](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/259](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/82 . . using neural networks
- 10/84 . . using probabilistic graphical models from image or video features, e.g. Markov models or Bayesian networks
- WARNING**
- Group [G06V 10/84](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/29](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/85 . . . {Markov-related models; Markov random fields}
- WARNING**
- Group [G06V 10/85](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/295](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/86 . . using syntactic or structural representations of the image or video pattern, e.g. symbolic string recognition; using graph matching

- 10/87 . . {using selection of the recognition techniques, e.g. of a classifier in a multiple classifier system}
- WARNING**
- Group [G06V 10/87](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/285](#), [G06V 10/10](#) and [G06V 10/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/88 . Image or video recognition using optical means, e.g. reference filters, holographic masks, frequency domain filters or spatial domain filters
- WARNING**
- Group [G06V 10/88](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/88](#) is also impacted by reclassification into groups [G06V 30/199](#) and [G06V 30/20](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/89 . . {using frequency domain filters, e.g. Fourier masks implemented on spatial light modulators}
- WARNING**
- Group [G06V 10/89](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/89](#) is also impacted by reclassification into group [G06V 30/199](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/893 . . . {characterised by the kind of filter}
- WARNING**
- Group [G06V 10/893](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/893](#) is also impacted by reclassification into group [G06V 30/199](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/895 {the filter being related to phase processing, e.g. phase-only filters}
- WARNING**
- Group [G06V 10/895](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/895](#) is also impacted by reclassification into group [G06V 30/199](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/898 {combination of filters, e.g. phase-only filters}
- WARNING**
- Group [G06V 10/898](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/898](#) is also impacted by reclassification into group [G06V 30/199](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/92 . . {using spatial domain filters, e.g. joint transform correlators}
- WARNING**
- Group [G06V 10/92](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 10/20](#).
- Group [G06V 10/92](#) is also impacted by reclassification into group [G06V 30/199](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/94 . Hardware or software architectures specially adapted for image or video understanding
- WARNING**
- Groups [G06V 10/94](#), [G06V 10/95](#) and [G06V 10/955](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 10/945 . . {User interactive design; Environments; Toolboxes}
- WARNING**
- Group [G06V 10/945](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06F 18/40](#).
- Groups [G06F 18/00](#), [G06F 18/40](#) and [G06V 10/945](#) should be considered in order to perform a complete search.
- 10/95 . . {structured as a network, e.g. client-server architectures}
- 10/955 . . {using specific electronic processors}
- 10/96 . Management of image or video recognition tasks
- WARNING**
- Group [G06V 10/96](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Groups [G06F 18/00](#) and [G06V 10/96](#) should be considered in order to perform a complete search.

- 10/98 . Detection or correction of errors, e.g. by rescanning the pattern or by human intervention; Evaluation of the quality of the acquired patterns
- WARNING**
- Group [G06V 10/98](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 10/98](#) is also impacted by reclassification into group [G06V 30/12](#).
- Groups [G06F 18/00](#), [G06V 10/98](#) and [G06V 30/12](#) should be considered in order to perform a complete search.
- 10/987 . . {with the intervention of an operator}
- WARNING**
- Group [G06V 10/987](#) is impacted by reclassification into group [G06V 30/127](#).
- Groups [G06V 10/987](#) and [G06V 30/127](#) should be considered in order to perform a complete search.
- 10/993 . . {Evaluation of the quality of the acquired pattern}
- WARNING**
- Group [G06V 10/993](#) is impacted by reclassification into group [G06V 30/133](#).
- Groups [G06V 10/993](#) and [G06V 30/133](#) should be considered in order to perform a complete search.
- 20/00 **Scenes; Scene-specific elements (control of digital cameras [H04N 23/60](#))**
- NOTE**
- In this group, the following term is used with the meaning indicated:
- "scene" is a visual representation of the world or of some elements of it, as captured by a sensor or generated by a computer.
- WARNING**
- Group [G06V 20/00](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 20/00](#) is also impacted by reclassification into groups [G06V 20/05](#), [G06V 20/50](#), [G06V 20/60](#), [G06V 20/66](#), [G06V 20/69](#), [G06V 20/693](#), [G06V 20/695](#), [G06V 20/698](#) and [G06V 20/70](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/05 . Underwater scenes
- WARNING**
- Group [G06V 20/05](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 20/00](#).
- Groups [G06F 18/00](#), [G06V 20/00](#) and [G06V 20/05](#) should be considered in order to perform a complete search.
- 20/10 . Terrestrial scenes (scenes under surveillance with static cameras [G06V 20/52](#); scenes perceived from the exterior of a vehicle [G06V 20/56](#); scenes perceived from the interior of a vehicle [G06V 20/59](#))
- WARNING**
- Groups [G06V 20/10](#), [G06V 20/176](#), [G06V 20/182](#), [G06V 20/188](#) and [G06V 20/194](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/13 . . Satellite images
- WARNING**
- Group [G06V 20/13](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Group [G06V 20/13](#) is also impacted by reclassification into group [G06V 20/17](#).
- Groups [G06F 18/00](#), [G06V 20/13](#) and [G06V 20/17](#) should be considered in order to perform a complete search.
- 20/17 . . taken from planes or by drones
- WARNING**
- Group [G06V 20/17](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 20/13](#).
- Groups [G06F 18/00](#), [G06V 20/13](#) and [G06V 20/17](#) should be considered in order to perform a complete search.
- 20/176 . . {Urban or other man-made structures}
- 20/182 . . {Network patterns, e.g. roads or rivers}
- 20/188 . . {Vegetation}
- 20/194 . . {using hyperspectral data, i.e. more or other wavelengths than RGB}
- 20/20 . in augmented reality scenes
- WARNING**
- Group [G06V 20/20](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Groups [G06F 18/00](#) and [G06V 20/20](#) should be considered in order to perform a complete search.
- 20/30 . in albums, collections or shared content, e.g. social network photos or video
- WARNING**
- Group [G06V 20/30](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Groups [G06F 18/00](#) and [G06V 20/30](#) should be considered in order to perform a complete search.

- 20/35 . {Categorising the entire scene, e.g. birthday party or wedding scene}
- WARNING**
- Groups [G06V 20/35](#), [G06V 20/36](#), [G06V 20/38](#) and [G06V 20/39](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/36 . . {Indoor scenes}
- 20/38 . . {Outdoor scenes}
- 20/39 . . . {Urban scenes}
- 20/40 . in video content (extracting overlay text [G06V 20/62](#); video retrieval [G06F 16/70](#); processing of video elementary streams in video servers [H04N 21/234](#); processing of video elementary streams in video clients [H04N 21/44](#))
- WARNING**
- Groups [G06V 20/40](#), [G06V 20/41](#), [G06V 20/42](#), [G06V 20/43](#), [G06V 20/44](#), [G06V 20/46](#), [G06V 20/47](#), [G06V 20/48](#) and [G06V 20/49](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/41 . . {Higher-level, semantic clustering, classification or understanding of video scenes, e.g. detection, labelling or Markovian modelling of sport events or news items (segmenting video sequences [G06V 20/49](#))}
- 20/42 . . . {of sport video content}
- 20/43 . . . {of news video content}
- 20/44 . . {Event detection}
- 20/46 . . {Extracting features or characteristics from the video content, e.g. video fingerprints, representative shots or key frames}
- 20/47 . . . {Detecting features for summarising video content}
- 20/48 . . {Matching video sequences}
- 20/49 . . {Segmenting video sequences, i.e. computational techniques such as parsing or cutting the sequence, low-level clustering or determining units such as shots or scenes}
- 20/50 . Context or environment of the image
- WARNING**
- Group [G06V 20/50](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 20/00](#).
- Groups [G06F 18/00](#), [G06V 20/00](#) and [G06V 20/50](#) should be considered in order to perform a complete search.
- 20/52 . . Surveillance or monitoring of activities, e.g. for recognising suspicious objects ([recognising microscopic objects G06V 20/69](#))
- WARNING**
- Groups [G06V 20/52](#), [G06V 20/53](#) and [G06V 20/54](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/53 . . . {Recognition of crowd images, e.g. recognition of crowd congestion}
- 20/54 . . . of traffic, e.g. cars on the road, trains or boats
- 20/56 . . exterior to a vehicle by using sensors mounted on the vehicle
- WARNING**
- Groups [G06V 20/56](#), [G06V 20/58](#), [G06V 20/582](#), [G06V 20/584](#), [G06V 20/586](#) and [G06V 20/588](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/58 . . . Recognition of moving objects or obstacles, e.g. vehicles or pedestrians; Recognition of traffic objects, e.g. traffic signs, traffic lights or roads
- 20/582 {of traffic signs}
- 20/584 {of vehicle lights or traffic lights}
- 20/586 {of parking space}
- 20/588 . . . {Recognition of the road, e.g. of lane markings; Recognition of the vehicle driving pattern in relation to the road}
- 20/59 . . inside of a vehicle, e.g. relating to seat occupancy, driver state or inner lighting conditions
- WARNING**
- Groups [G06V 20/59](#), [G06V 20/593](#) and [G06V 20/597](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/593 . . . {Recognising seat occupancy}
- 20/597 . . . {Recognising the driver's state or behaviour, e.g. attention or drowsiness}

- 20/60 . Type of objects
- WARNING**
- Groups [G06V 20/60](#), [G06V 20/66](#), [G06V 20/69](#), [G06V 20/693](#), [G06V 20/695](#) and [G06V 20/698](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 20/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/62 . . Text, e.g. of license plates, overlay texts or captions on TV images
- WARNING**
- Groups [G06V 20/62](#), [G06V 20/625](#), [G06V 20/63](#) and [G06V 20/635](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/625 . . . {License plates}
- 20/63 . . . {Scene text, e.g. street names}
- 20/635 . . . {Overlay text, e.g. embedded captions in a TV program}
- 20/64 . . Three-dimensional objects
- WARNING**
- Groups [G06V 20/64](#), [G06V 20/647](#) and [G06V 20/653](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 20/647 . . . {by matching two-dimensional images to three-dimensional objects}
- 20/653 . . . {by matching three-dimensional models, e.g. conformal mapping of Riemann surfaces}
- 20/66 . . Trinkets, e.g. shirt buttons or jewellery items ([recognising microscopic objects G06V 20/69](#))
- 20/68 . . Food, e.g. fruit or vegetables
- WARNING**
- Group [G06V 20/68](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Groups [G06F 18/00](#) and [G06V 20/68](#) should be considered in order to perform a complete search.
- 20/69 . . Microscopic objects, e.g. biological cells or cellular parts
- 20/693 . . . {Acquisition}
- 20/695 . . . {Preprocessing, e.g. image segmentation}
- 20/698 . . . {Matching; Classification}
- 20/70 . Labelling scene content, e.g. deriving syntactic or semantic representations
- WARNING**
- Group [G06V 20/70](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 20/00](#).
- Groups [G06F 18/00](#), [G06V 20/00](#) and [G06V 20/70](#) should be considered in order to perform a complete search.
- 20/80 . Recognising image objects characterised by unique random patterns
- WARNING**
- Group [G06V 20/80](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Groups [G06F 18/00](#) and [G06V 20/80](#) should be considered in order to perform a complete search.
- 20/90 . Identifying an image sensor based on its output data
- WARNING**
- Group [G06V 20/90](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).
- Groups [G06F 18/00](#) and [G06V 20/90](#) should be considered in order to perform a complete search.
- 20/95 . {Pattern authentication; Markers therefor; Forgery detection}
- 30/00 Character recognition; Recognising digital ink; Document-oriented image-based pattern recognition** ([scanning, transmission or reproduction of documents or the like H04N 1/00](#))
- NOTE**
- This group [covers](#) recognition of characters or digital ink, where the characters or the digital ink can include representations in three dimensions, e.g. as written by performing gestures in the air.
- WARNING**
- Groups [G06V 30/00](#), [G06V 30/412](#), [G06V 30/413](#), [G06V 30/414](#), [G06V 30/416](#), [G06V 30/418](#), [G06V 30/42](#), [G06V 30/422](#) and [G06V 30/424](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

30/10

- Character recognition

WARNING

Group [G06V 30/10](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).

Group [G06V 30/10](#) is also impacted by reclassification into groups [G06V 30/12](#), [G06V 30/127](#), [G06V 30/133](#), [G06V 30/14](#), [G06V 30/141](#), [G06V 30/142](#), [G06V 30/1423](#), [G06V 30/1426](#), [G06V 30/1429](#), [G06V 30/1431](#), [G06V 30/1434](#), [G06V 30/1437](#), [G06V 30/144](#), [G06V 30/1444](#), [G06V 30/1448](#), [G06V 30/1452](#), [G06V 30/1456](#), [G06V 30/146](#), [G06V 30/1463](#), [G06V 30/1465](#), [G06V 30/1468](#), [G06V 30/147](#), [G06V 30/1473](#), [G06V 30/1475](#), [G06V 30/1478](#), [G06V 30/148](#), [G06V 30/15](#), [G06V 30/153](#), [G06V 30/155](#), [G06V 30/158](#), [G06V 30/16](#), [G06V 30/1607](#), [G06V 30/1613](#), [G06V 30/162](#), [G06V 30/164](#), [G06V 30/166](#), [G06V 30/168](#), [G06V 30/18](#), [G06V 30/1801](#), [G06V 30/18019](#), [G06V 30/18029](#), [G06V 30/18038](#), [G06V 30/18048](#), [G06V 30/18057](#), [G06V 30/18067](#), [G06V 30/18076](#), [G06V 30/18086](#), [G06V 30/18095](#), [G06V 30/18105](#), [G06V 30/18114](#), [G06V 30/18124](#), [G06V 30/18133](#), [G06V 30/18143](#), [G06V 30/18152](#), [G06V 30/18162](#), [G06V 30/18171](#), [G06V 30/18181](#), [G06V 30/1819](#), [G06V 30/182](#), [G06V 30/1823](#), [G06V 30/1826](#), [G06V 30/1829](#), [G06V 30/1831](#), [G06V 30/1834](#), [G06V 30/1837](#), [G06V 30/184](#), [G06V 30/186](#), [G06V 30/187](#), [G06V 30/188](#), [G06V 30/189](#), [G06V 30/19](#), [G06V 30/19007](#), [G06V 30/19013](#), [G06V 30/1902](#), [G06V 30/19027](#), [G06V 30/19033](#), [G06V 30/1904](#), [G06V 30/19047](#), [G06V 30/19053](#), [G06V 30/1906](#), [G06V 30/19067](#), [G06V 30/19073](#), [G06V 30/1908](#), [G06V 30/19087](#), [G06V 30/19093](#), [G06V 30/191](#), [G06V 30/19107](#), [G06V 30/19113](#), [G06V 30/1912](#), [G06V 30/19127](#), [G06V 30/19133](#), [G06V 30/1914](#), [G06V 30/19147](#), [G06V 30/19153](#), [G06V 30/1916](#), [G06V 30/19167](#), [G06V 30/19173](#), [G06V 30/1918](#), [G06V 30/19187](#), [G06V 30/19193](#), [G06V 30/192](#), [G06V 30/194](#), [G06V 30/195](#), [G06V 30/196](#), [G06V 30/198](#), [G06V 30/1983](#), [G06V 30/1985](#), [G06V 30/1988](#), [G06V 30/199](#), [G06V 30/20](#), [G06V 30/22](#), [G06V 30/222](#), [G06V 30/224](#), [G06V 30/2247](#), [G06V 30/2253](#), [G06V 30/226](#), [G06V 30/2264](#), [G06V 30/2268](#), [G06V 30/2272](#), [G06V 30/2276](#), [G06V 30/228](#), [G06V 30/24](#), [G06V 30/242](#), [G06V 30/244](#), [G06V 30/2445](#), [G06V 30/245](#), [G06V 30/2455](#), [G06V 30/246](#), [G06V 30/248](#), [G06V 30/2504](#), [G06V 30/2528](#), [G06V 30/2552](#), [G06V 30/26](#), [G06V 30/262](#), [G06V 30/268](#), [G06V 30/274](#), [G06V 30/28](#), [G06V 30/287](#), [G06V 30/293](#), [G06V 30/30](#), [G06V 30/302](#), [G06V 30/304](#), [G06V 30/32](#), [G06V 30/333](#), [G06V 30/347](#), [G06V 30/36](#), [G06V 30/373](#) and [G06V 30/387](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/12

- . . Detection or correction of errors, e.g. by rescanning the pattern

WARNING

Group [G06V 30/12](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/98](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/127

- . . . {with the intervention of an operator}

WARNING

Group [G06V 30/127](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/987](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/133

- . . . {Evaluation of quality of the acquired characters}

WARNING

Group [G06V 30/133](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/993](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/14

- . . Image acquisition

WARNING

Groups [G06V 30/14](#), [G06V 30/1423](#), [G06V 30/144](#), [G06V 30/153](#) and [G06V 30/158](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/141

- . . . {using multiple overlapping images; Image stitching}

WARNING

Group [G06V 30/141](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/16](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/142 . . . using hand-held instruments; Constructional details of the instruments

WARNING

Group [G06V 30/142](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/12](#), [G06V 10/17](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1423 {the instrument generating sequences of position coordinates corresponding to handwriting (preprocessing or recognising digital ink [G06V 30/32](#))}

30/1426 {by sensing position defining codes on a support}

WARNING

Group [G06V 30/1426](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/19](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1429 . . . {Identifying or ignoring parts by sensing at different wavelengths}

WARNING

Group [G06V 30/1429](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/143](#), [G06V 10/147](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1431 . . . {Illumination control}

WARNING

Group [G06V 30/1431](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/141](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1434 . . . {Special illumination such as grating, reflections or deflections, e.g. for characters with relief}

WARNING

Group [G06V 30/1434](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/145](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1437 . . . {Sensor details, e.g. position, configuration or special lenses ([G06V 30/1429](#) takes precedence)}

WARNING

Group [G06V 30/1437](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/147](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/144 . . . using a slot moved over the image; using discrete sensing elements at predetermined points; using automatic curve following means

30/1444 . . . {Selective acquisition, locating or processing of specific regions, e.g. highlighted text, fiducial marks or predetermined fields}

WARNING

Group [G06V 30/1444](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/22](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1448 {based on markings or identifiers characterising the document or the area}

WARNING

Group [G06V 30/1448](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/225](#), [G06V 10/245](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1452 {based on positionally close symbols, e.g. amount sign or URL-specific characters}

WARNING

Group [G06V 30/1452](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/23](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1456 {based on user interactions}

WARNING

Group [G06V 30/1456](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/235](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 30/146 Aligning or centring of the image pick-up or image-field
WARNING
 Group [G06V 30/146](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/24](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1463 {Orientation detection or correction, e.g. rotation of multiples of 90 degrees}
WARNING
 Group [G06V 30/1463](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/242](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1465 {by locating a pattern ([G06V 30/1475](#) takes precedence; centring within a document with a marking [G06V 30/1448](#))}
WARNING
 Groups [G06V 30/1465](#) and [G06V 30/1468](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/245](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1468 {Special marks for positioning}
- 30/147 {Determination of region of interest}
WARNING
 Group [G06V 30/147](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/25](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1473 {Recognising objects as potential recognition candidates based on visual cues, e.g. shapes}
WARNING
 Group [G06V 30/1473](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/255](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1475 {Inclination or skew detection or correction of characters or of image to be recognised}
WARNING
 Group [G06V 30/1475](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/243](#), [G06V 10/245](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1478 {of characters or characters lines}
WARNING
 Group [G06V 30/1478](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/245](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/148 Segmentation of character regions
WARNING
 Group [G06V 30/148](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/26](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/15 {Cutting or merging image elements, e.g. region growing, watershed or clustering-based techniques}
WARNING
 Group [G06V 30/15](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/267](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/153 {using recognition of characters or words}
- 30/155 {Removing patterns interfering with the pattern to be recognised, such as ruled lines or underlines}
WARNING
 Group [G06V 30/155](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/273](#) and [G06V 30/10](#).
 All groups listed in this Warning should be considered in order to perform a complete search.
- 30/158 {using character size, text spacings or pitch estimation}

30/16 . . . Image preprocessing

WARNING

Group [G06V 30/16](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/20](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1607 . . . {Correcting image deformation, e.g. trapezoidal deformation caused by perspective}

WARNING

Group [G06V 30/1607](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/20](#), [G06V 10/247](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1613 . . . {Interactive preprocessing or shape modelling, e.g. assignment of feature points by a user}

WARNING

Group [G06V 30/1613](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/20](#), [G06V 10/248](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/162 . . . Quantising the image signal

WARNING

Group [G06V 30/162](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/20](#), [G06V 10/28](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/164 . . . Noise filtering

WARNING

Group [G06V 30/164](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/20](#), [G06V 10/30](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/166 . . . Normalisation of pattern dimensions

WARNING

Group [G06V 30/166](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/20](#), [G06V 10/32](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/168 . . . Smoothing or thinning of the pattern; Skeletonisation

WARNING

Group [G06V 30/168](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/20](#), [G06V 10/34](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18 . . . Extraction of features or characteristics of the image

WARNING

Group [G06V 30/18](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/40](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1801 . . . {Detecting partial patterns, e.g. edges or contours, or configurations, e.g. loops, corners, strokes or intersections (extracting features by contour coding [G06V 30/182](#))}

WARNING

Group [G06V 30/1801](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18019 {by matching or filtering}

WARNING

Group [G06V 30/18019](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/443](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18029 {filtering with Haar-like subimages, e.g. computation thereof with the integral image technique}

WARNING

Group [G06V 30/18029](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/446](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18038 {Biologically-inspired filters, e.g. difference of Gaussians [DoG], Gabor filters}

WARNING

Group [G06V 30/18038](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/449](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18048 {with interaction between the responses of different filters, e.g. cortical complex cells}

WARNING

Group [G06V 30/18048](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/451](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18057 {Integrating the filters into a hierarchical structure, e.g. convolutional neural networks [CNN]}

WARNING

Group [G06V 30/18057](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/454](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18067 {by mapping characteristic values of the pattern into a parameter space, e.g. Hough transformation}

WARNING

Group [G06V 30/18067](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/48](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18076 {by analysing connectivity, e.g. edge linking, connected component analysis or slices}

WARNING

Group [G06V 30/18076](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/457](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18086 {by performing operations within image blocks or by using histograms}

WARNING

Group [G06V 30/18086](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/50](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18095 {Summing image-intensity values; Projection and histogram analysis}

WARNING

Group [G06V 30/18095](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/507](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18105 {related to colour}

WARNING

Group [G06V 30/18105](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/56](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18114 {involving specific hyperspectral computations of features}

WARNING

Group [G06V 30/18114](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/58](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18124 {related to illumination properties, e.g. according to a reflectance or lighting model}

WARNING

Group [G06V 30/18124](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/60](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18133 . . . {regional/local feature not essentially salient, e.g. local binary pattern}

WARNING

Group [G06V 30/18133](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/467](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18143 . . . {Extracting features based on salient regional features, e.g. scale invariant feature transform [SIFT] keypoints}

WARNING

Group [G06V 30/18143](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/462](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18152 {Extracting features based on a plurality of salient regional features, e.g. "bag of words"}

WARNING

Group [G06V 30/18152](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/464](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18162 . . . {related to a structural representation of the pattern}

WARNING

Group [G06V 30/18162](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/422](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18171 {Syntactic representation, e.g. using a grammatical approach}

WARNING

Group [G06V 30/18171](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/424](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/18181 {Graphical representation, e.g. directed attributed graph}

WARNING

Group [G06V 30/18181](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/426](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1819 . . . {sparse representations}

WARNING

Group [G06V 30/1819](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/513](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/182 . . . by coding the contour of the pattern

WARNING

Group [G06V 30/182](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#), [G06V 10/46](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1823 {using vector-coding}

WARNING

Group [G06V 30/1823](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#), [G06V 10/469](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1826 {analysing the spectrum of the contour, e.g. Fourier expansion}

WARNING

Group [G06V 30/1826](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#), [G06V 10/478](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1829 {using an approximation function}

WARNING

Group [G06V 30/1829](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#), [G06V 10/471](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 30/1831 {using gradient analysis}
- WARNING**
- Group [G06V 30/1831](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#), [G06V 10/473](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1834 {using statistical shape modelling, e.g. point distribution model}
- WARNING**
- Group [G06V 30/1834](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#), [G06V 10/476](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1837 {using wavelet analysis}
- WARNING**
- Group [G06V 30/1837](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/44](#), [G06V 10/478](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/184 by analysing segments intersecting the pattern
- WARNING**
- Group [G06V 30/184](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/421](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/186 by deriving mathematical or geometrical properties from the whole image
- WARNING**
- Group [G06V 30/186](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/42](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/187 {Frequency domain transformation; Autocorrelation}
- WARNING**
- Group [G06V 30/187](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/431](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/188 {Computation of moments}
- WARNING**
- Group [G06V 30/188](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/435](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/189 {Scale-space domain transformation, e.g. with wavelet analysis}
- WARNING**
- Group [G06V 30/189](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/52](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19 . . . Recognition using electronic means
- WARNING**
- Group [G06V 30/19](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19007 {Matching; Proximity measures}
- WARNING**
- Group [G06V 30/19007](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/22](#), [G06V 10/75](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19013 {Comparing pixel values or logical combinations thereof, or feature values having positional relevance, e.g. template matching (specially adapted for image segmentation [G06T 7/10](#); specially adapted for the analysis of motion [G06T 7/20](#); specially adapted for image alignment [G06T 7/30](#); specially adapted for the calculation of depth from stereo images [G06T 7/50](#); specially adapted for position determination [G06T 7/70](#))}
- WARNING**
- Group [G06V 30/19013](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/751](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- 30/1902 {Shifting or otherwise transforming the patterns to accommodate for positional errors}
- WARNING**
- Group [G06V 30/1902](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/7515](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19027 {Matching of contours}
- WARNING**
- Group [G06V 30/19027](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/752](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19033 {by mapping curve parameters onto an accumulator array, e.g. generalised Hough Transform}
- WARNING**
- Group [G06V 30/19033](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/753](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1904 {involving a deformation of the sample or reference pattern; Elastic matching}
- WARNING**
- Group [G06V 30/1904](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/754](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19047 {based on a local optimisation criterion, e.g. "snakes", i.e. active contour models of the pattern to be recognised}
- WARNING**
- Group [G06V 30/19047](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/755](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19053 {based on shape statistics, e.g. active shape models of the pattern to be recognised}
- WARNING**
- Group [G06V 30/19053](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/7553](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1906 {based also on statistics of image patches, e.g. active appearance models of the pattern to be recognised}
- WARNING**
- Group [G06V 30/1906](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/7557](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19067 {Matching configurations of points or features, e.g. constellation matching}
- WARNING**
- Group [G06V 30/19067](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/757](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19073 {Comparing statistics of pixel or of feature values, e.g. histogram matching}
- WARNING**
- Group [G06V 30/19073](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/758](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1908 {Region based matching}
- WARNING**
- Group [G06V 30/1908](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/759](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

- 30/19087 {based on parametric eigenspace representations, e.g. eigenspace representations using pose or illumination parameters; Shape manifold}
- WARNING**
- Group [G06V 30/19087](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/76](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19093 {Proximity measures, i.e. similarity or distance measures}
- WARNING**
- Group [G06V 30/19093](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/22](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/191 {Design or setup of recognition systems or techniques; Extraction of features in feature space; Clustering techniques; Blind source separation}
- WARNING**
- Group [G06V 30/191](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/21](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19107 {Clustering techniques}
- WARNING**
- Group [G06V 30/19107](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/23](#), [G06F 18/231](#), [G06F 18/232](#), [G06F 18/2321](#), [G06F 18/23211](#), [G06F 18/23213](#), [G06F 18/2323](#), [G06F 18/2321](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19113 {Selection of pattern recognition techniques, e.g. of classifiers in a multi-classifier system}
- WARNING**
- Group [G06V 30/19113](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/285](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1912 {Selecting the most significant subset of features ([G06V 30/19127](#) takes precedence)}
- WARNING**
- Group [G06V 30/1912](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/211](#), [G06F 18/2111](#), [G06F 18/2113](#), [G06F 18/2115](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19127 {Extracting features by transforming the feature space, e.g. multidimensional scaling; Mappings, e.g. subspace methods}
- WARNING**
- Group [G06V 30/19127](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/213](#), [G06F 18/2132](#), [G06F 18/21322](#), [G06F 18/21324](#), [G06F 18/21326](#), [G06F 18/21328](#), [G06F 18/2133](#), [G06F 18/2134](#), [G06F 18/21342](#), [G06F 18/21343](#), [G06F 18/21345](#), [G06F 18/21347](#), [G06F 18/21348](#), [G06F 18/2135](#), [G06F 18/21355](#), [G06F 18/2136](#), [G06F 18/2137](#), [G06F 18/21375](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/19133 {Interactive pattern learning with a human teacher}
- WARNING**
- Group [G06V 30/19133](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/41](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1914 {Determining representative reference patterns, e.g. averaging or distorting patterns; Generating dictionaries, e.g. user dictionaries}
- WARNING**
- Group [G06V 30/1914](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/28](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.

30/19147 {Obtaining sets of training patterns;
Bootstrap methods, e.g. bagging or boosting}

WARNING

Group [G06V 30/19147](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/214](#), [G06F 18/2148](#), [G06F 18/2155](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/19153 {using rules for classification or partitioning the feature space}

WARNING

Group [G06V 30/19153](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/24765](#), [G06F 18/2163](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1916 {Validation; Performance evaluation}

WARNING

Group [G06V 30/1916](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/217](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/19167 {Active pattern learning}

WARNING

Group [G06V 30/19167](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/217](#), [G06F 18/2178](#), [G06F 18/2185](#), [G06F 18/2193](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/19173 {Classification techniques}

WARNING

Group [G06V 30/19173](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/24](#), [G06F 18/241](#), [G06F 18/2411](#), [G06F 18/2413](#), [G06F 18/24133](#), [G06F 18/24137](#), [G06F 18/2414](#), [G06F 18/24143](#), [G06F 18/24147](#), [G06F 18/2415](#), [G06F 18/24155](#), [G06F 18/243](#), [G06F 18/2431](#), [G06F 18/24317](#), [G06F 18/24323](#), [G06F 18/2433](#), [G06F 18/245](#), [G06F 18/2451](#), [G06F 18/2453](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/1918 {Fusion techniques, i.e. combining data from various sources, e.g. sensor fusion}

WARNING

Group [G06V 30/1918](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/25](#), [G06F 18/251](#), [G06F 18/253](#), [G06F 18/254](#), [G06F 18/256](#), [G06F 18/257](#), [G06F 18/259](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/19187 {Graphical models, e.g. Bayesian networks or Markov models}

WARNING

Group [G06V 30/19187](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/29](#), [G06F 18/295](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

30/19193 {Statistical pre-processing, e.g. techniques for normalisation or restoring missing data}

WARNING

Group [G06V 30/19193](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/10](#) and [G06V 30/10](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 30/192 . . . using simultaneous comparisons or correlations of the image signals with a plurality of references
- WARNING**
- Group [G06V 30/192](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/75](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/194 References adjustable by an adaptive method, e.g. learning
- WARNING**
- Group [G06V 30/194](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- Group [G06V 30/194](#) is also impacted by reclassification into groups [G06V 10/70](#) and [G06V 10/766](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/195 {using a resistor matrix}
- WARNING**
- Group [G06V 30/195](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- Groups [G06F 18/00](#), [G06V 30/10](#) and [G06V 30/195](#) should be considered in order to perform a complete search.
- 30/196 . . . using sequential comparisons of the image signals with a plurality of references
- WARNING**
- Groups [G06V 30/196](#) and [G06V 30/198](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/75](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/198 the selection of the next reference depending on the result of the preceding comparison
- 30/1983 {Syntactic or structural pattern recognition, e.g. symbolic string recognition}
- WARNING**
- Groups [G06V 30/1983](#), [G06V 30/1985](#) and [G06V 30/1988](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/1985 {Syntactic analysis, e.g. using a grammatical approach (syntactic image representation [G06V 30/18171](#))}
- 30/1988 {Graph matching (graphical image representation [G06V 30/18181](#))}
- 30/199 . . Arrangements for recognition using optical reference masks, e.g. holographic masks
- WARNING**
- Group [G06V 30/199](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/20](#), [G06V 10/88](#), [G06V 10/89](#), [G06V 10/893](#), [G06V 10/895](#), [G06V 10/898](#), [G06V 10/92](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/20 . . Combination of acquisition, preprocessing or recognition functions
- WARNING**
- Group [G06V 30/20](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/10](#), [G06V 10/20](#), [G06V 10/36](#), [G06V 10/88](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/22 . . characterised by the type of writing
- WARNING**
- Groups [G06V 30/22](#), [G06V 30/222](#), [G06V 30/226](#), [G06V 30/2264](#), [G06V 30/2268](#), [G06V 30/2272](#), [G06V 30/2276](#) and [G06V 30/228](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/222 . . . of characters separated by spaces
- 30/224 . . . of printed characters having additional code marks or containing code marks
- WARNING**
- Groups [G06V 30/224](#), [G06V 30/2247](#) and [G06V 30/2253](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 30/10](#) and [G06V 30/40](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/2247 {Characters composed of bars, e.g. CMC-7}
- 30/2253 {Recognition of characters printed with magnetic ink ([G06V 30/2247](#) takes precedence)}
- 30/226 . . . of cursive writing
- 30/2264 {using word shape}
- 30/2268 {using stroke segmentation}
- 30/2272 {with lexical matching}

- 30/2276 {with probabilistic networks, e.g. hidden Markov models}
- 30/228 . . . of three-dimensional handwriting, e.g. writing in the air
- 30/24 . . characterised by the processing or recognition method (segmentation of character regions [G06V 30/148](#))
- WARNING**
- Groups [G06V 30/24](#), [G06V 30/242](#), [G06V 30/244](#), [G06V 30/2445](#), [G06V 30/245](#), [G06V 30/2455](#), [G06V 30/246](#), [G06V 30/248](#), [G06V 30/2504](#), [G06V 30/2528](#) and [G06V 30/2552](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/242 . . . Division of the character sequences into groups prior to recognition; Selection of dictionaries
- 30/244 using graphical properties, e.g. alphabet type or font
- 30/2445 {Alphabet recognition, e.g. Latin, Kanji or Katakana}
- 30/245 {Font recognition}
- 30/2455 {Discrimination between machine-print, hand-print and cursive writing}
- 30/246 using linguistic properties, e.g. specific for English or German language
- 30/248 . . . {involving plural approaches, e.g. verification by template match; Resolving confusion among similar patterns, e.g. "O" versus "Q" ([G06V 30/242](#) takes precedence)}
- 30/2504 {Coarse or fine approaches, e.g. resolution of ambiguities or multiscale approaches}
- 30/2528 {Combination of methods, e.g. classifiers, working on the same input data}
- 30/2552 {Combination of methods, e.g. classifiers, working on different input data, e.g. sensor fusion}
- 30/26 . . Techniques for post-processing, e.g. correcting the recognition result
- WARNING**
- Groups [G06V 30/26](#), [G06V 30/268](#) and [G06V 30/274](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/262 . . . using context analysis, e.g. lexical, syntactic or semantic context
- WARNING**
- Group [G06V 30/262](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06V 10/768](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/268 {Lexical context}
- 30/274 {Syntactic or semantic context, e.g. balancing}
- 30/28 . . specially adapted to the type of the alphabet, e.g. Latin alphabet
- WARNING**
- Groups [G06V 30/28](#), [G06V 30/287](#) and [G06V 30/293](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/287 {of Kanji, Hiragana or Katakana characters}
- 30/293 {of characters other than Kanji, Hiragana or Katakana}
- 30/30 . . based on the type of data
- WARNING**
- Groups [G06V 30/30](#) and [G06V 30/304](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/302 . . . Images containing characters for discriminating human versus automated computer access
- WARNING**
- Group [G06V 30/302](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#), [G06F 18/217](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/304 . . . Music notations
- 30/32 . . Digital ink
- WARNING**
- Groups [G06V 30/32](#), [G06V 30/333](#), [G06V 30/347](#), [G06V 30/36](#), [G06V 30/373](#) and [G06V 30/387](#) are incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/10](#).
- All groups listed in this Warning should be considered in order to perform a complete search.
- 30/333 {Preprocessing; Feature extraction}
- 30/347 {Sampling; Contour coding; Stroke extraction}
- 30/36 {Matching; Classification}
- 30/373 {using a special pattern or subpattern alphabet}
- 30/387 {using human interaction, e.g. selection of the best displayed recognition candidate}

- 30/40 . Document-oriented image-based pattern recognition

WARNING

Group [G06V 30/40](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).

Group [G06V 30/40](#) is also impacted by reclassification into groups [G06V 30/224](#), [G06V 30/2247](#), [G06V 30/2253](#) and [G06V 30/41](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 30/41 . . Analysis of document content ([recognition of printed characters based on code marks G06V 30/224](#))

WARNING

Group [G06V 30/41](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 30/40](#).

Groups [G06F 18/00](#), [G06V 30/40](#) and [G06V 30/41](#) should be considered in order to perform a complete search.

- 30/412 . . . Layout analysis of documents structured with printed lines or input boxes, e.g. business forms or tables
- 30/413 . . . Classification of content, e.g. text, photographs or tables
- 30/414 . . . Extracting the geometrical structure, e.g. layout tree; Block segmentation, e.g. bounding boxes for graphics or text
- 30/416 . . . Extracting the logical structure, e.g. chapters, sections or page numbers; Identifying elements of the document, e.g. authors
- 30/418 . . . Document matching, e.g. of document images
- 30/42 . . based on the type of document
- 30/422 . . . Technical drawings; Geographical maps
- 30/424 . . . Postal images, e.g. labels or addresses on parcels or postal envelopes
- 30/43 . . {[Editing text-bitmaps, e.g. alignment, spacing; Semantic analysis of bitmaps of text without OCR](#)}

- 40/00 **Recognition of biometric, human-related or animal-related patterns in image or video data**

WARNING

Groups [G06V 40/00](#), [G06V 40/10](#), [G06V 40/103](#), [G06V 40/107](#), [G06V 40/11](#), [G06V 40/113](#), [G06V 40/117](#), [G06V 40/12](#), [G06V 40/1306](#), [G06V 40/1312](#), [G06V 40/1318](#), [G06V 40/1324](#), [G06V 40/1329](#), [G06V 40/1335](#), [G06V 40/1341](#), [G06V 40/1347](#), [G06V 40/1353](#), [G06V 40/1359](#), [G06V 40/1365](#), [G06V 40/1371](#), [G06V 40/1376](#), [G06V 40/1382](#), [G06V 40/1388](#), [G06V 40/1394](#), [G06V 40/14](#), [G06V 40/15](#), [G06V 40/155](#), [G06V 40/16](#), [G06V 40/161](#), [G06V 40/162](#), [G06V 40/164](#), [G06V 40/165](#), [G06V 40/166](#), [G06V 40/167](#), [G06V 40/168](#), [G06V 40/169](#), [G06V 40/171](#), [G06V 40/172](#), [G06V 40/173](#), [G06V 40/174](#), [G06V 40/175](#), [G06V 40/176](#), [G06V 40/178](#), [G06V 40/179](#), [G06V 40/18](#), [G06V 40/19](#), [G06V 40/193](#), [G06V 40/197](#), [G06V 40/20](#), [G06V 40/23](#), [G06V 40/25](#), [G06V 40/28](#), [G06V 40/30](#), [G06V 40/33](#), [G06V 40/37](#), [G06V 40/376](#), [G06V 40/382](#), [G06V 40/388](#), [G06V 40/394](#), [G06V 40/40](#), [G06V 40/45](#), [G06V 40/50](#), [G06V 40/53](#), [G06V 40/55](#), [G06V 40/58](#), [G06V 40/60](#), [G06V 40/63](#), [G06V 40/67](#) and [G06V 40/70](#) are incomplete pending reclassification of documents from group [G06F 18/00](#).

All groups listed in this Warning should be considered in order to perform a complete search.

- 40/10 . Human or animal bodies, e.g. vehicle occupants or pedestrians; Body parts, e.g. hands
- 40/103 . . {[Static body considered as a whole, e.g. static pedestrian or occupant recognition](#)}
- 40/107 . . {[Static hand or arm](#)}
- 40/11 . . . {[Hand-related biometrics; Hand pose recognition](#)}
- 40/113 . . . {[Recognition of static hand signs](#)}
- 40/117 . . . {[Biometrics derived from hands](#)}
- 40/12 . . Fingerprints or palmprints
- 40/13 . . . Sensors therefor

WARNING

Group [G06V 40/13](#) is incomplete pending reclassification of documents from group [G06F 18/00](#).

Group [G06V 40/13](#) is also impacted by reclassification into group [G06V 40/145](#).

Groups [G06F 18/00](#), [G06V 40/13](#) and [G06V 40/145](#) should be considered in order to perform a complete search.

- 40/1306 {[non-optical, e.g. ultrasonic or capacitive sensing](#)}
- 40/1312 {[direct reading, e.g. contactless acquisition](#)}
- 40/1318 {[using electro-optical elements or layers, e.g. electroluminescent sensing](#)}
- 40/1324 {[by using geometrical optics, e.g. using prisms \(G06V 40/1312 takes precedence\)](#)}
- 40/1329 {[Protecting the fingerprint sensor against damage caused by the finger](#)}

- 40/1335 . . . {Combining adjacent partial images (e.g. slices) to create a composite input or reference pattern; Tracking a sweeping finger movement}
 - 40/1341 . . . {Sensing with light passing through the finger}
 - 40/1347 . . . {Preprocessing; Feature extraction}
 - 40/1353 {Extracting features related to minutiae or pores}
 - 40/1359 {Extracting features related to ridge properties; Determining the fingerprint type, e.g. whorl or loop}
 - 40/1365 . . . {Matching; Classification}
 - 40/1371 {Matching features related to minutiae or pores}
 - 40/1376 {Matching features related to ridge properties or fingerprint texture}
 - 40/1382 . . . {Detecting the live character of the finger, i.e. distinguishing from a fake or cadaver finger}
 - 40/1388 {using image processing}
 - 40/1394 {using acquisition arrangements}
 - 40/14 . . Vascular patterns
 - 40/145 . . . Sensors therefor
- WARNING**
- Group [G06V 40/145](#) is incomplete pending reclassification of documents from groups [G06F 18/00](#) and [G06V 40/13](#).
- Groups [G06F 18/00](#), [G06V 40/13](#) and [G06V 40/145](#) should be considered in order to perform a complete search.
- 40/15 . . {Biometric patterns based on physiological signals, e.g. heartbeat, blood flow}
 - 40/155 . . {use of biometric patterns for forensic purposes}
 - 40/16 . . Human faces, e.g. facial parts, sketches or expressions
 - 40/161 . . . {Detection; Localisation; Normalisation}
 - 40/162 {using pixel segmentation or colour matching}
 - 40/164 {using holistic features}
 - 40/165 {using facial parts and geometric relationships}
 - 40/166 {using acquisition arrangements}
 - 40/167 {using comparisons between temporally consecutive images}
 - 40/168 . . . {Feature extraction; Face representation}
 - 40/169 {Holistic features and representations, i.e. based on the facial image taken as a whole}
 - 40/171 {Local features and components; Facial parts ([eye characteristics G06V 40/18](#)); Occluding parts, e.g. glasses; Geometrical relationships}
 - 40/172 . . . {Classification, e.g. identification}
 - 40/173 {face re-identification, e.g. recognising unknown faces across different face tracks}
 - 40/174 . . . {Facial expression recognition}
 - 40/175 {Static expression}
 - 40/176 {Dynamic expression}
 - 40/178 . . . {estimating age from face image; using age information for improving recognition}
 - 40/179 . . . {metadata assisted face recognition}
 - 40/18 . . Eye characteristics, e.g. of the iris
 - 40/19 . . . Sensors therefor
 - 40/193 . . . {Preprocessing; Feature extraction}
 - 40/197 . . . {Matching; Classification}
 - 40/20 . . Movements or behaviour, e.g. gesture recognition ([recognition of facial expressions G06V 40/16](#))
 - 40/23 . . . {Recognition of whole body movements, e.g. for sport training}
 - 40/25 {Recognition of walking or running movements, e.g. gait recognition}
 - 40/28 . . . {Recognition of hand or arm movements, e.g. recognition of deaf sign language ([static hand signs G06V 40/113](#))}
 - 40/30 . . Writer recognition; Reading and verifying signatures
 - 40/33 . . {based only on signature image, e.g. static signature recognition}
 - 40/37 . . {based only on signature signals such as velocity or pressure, e.g. dynamic signature recognition}
 - 40/376 . . . {Acquisition}
 - 40/382 . . . {Preprocessing; Feature extraction}
 - 40/388 {Sampling; Contour coding; Stroke extraction}
 - 40/394 . . . {Matching; Classification}
 - 40/40 . . Spoof detection, e.g. liveness detection
 - 40/45 . . . {Detection of the body part being alive}
 - 40/50 . . Maintenance of biometric data or enrolment thereof
 - 40/53 . . . {Measures to keep reference information secret, e.g. cancellable biometrics}
 - 40/55 . . . {Performing matching on a personal external card, e.g. to avoid submitting reference information}
 - 40/58 . . . {Solutions for unknown imposter distribution}
 - 40/60 . . Static or dynamic means for assisting the user to position a body part for biometric acquisition
 - 40/63 . . . {by static guides}
 - 40/67 . . . {by interactive indications to the user}
 - 40/70 . . Multimodal biometrics, e.g. combining information from different biometric modalities
- 2201/00 Indexing scheme relating to image or video recognition or understanding**
- 2201/01 . . Solutions for problems related to non-uniform document background
 - 2201/02 . . Recognising information on displays, dials, clocks
 - 2201/03 . . Recognition of patterns in medical or anatomical images
 - 2201/031 . . . of internal organs
 - 2201/032 . . . of protuberances, polyps nodules, etc.
 - 2201/033 . . . of skeletal patterns
 - 2201/034 . . . of medical instruments
 - 2201/04 . . Recognition of patterns in DNA microarrays
 - 2201/05 . . Recognition of patterns representing particular kinds of hidden objects, e.g. weapons, explosives, drugs
 - 2201/06 . . Recognition of objects for industrial automation
 - 2201/07 . . Target detection
 - 2201/08 . . Detecting or categorising vehicles
 - 2201/09 . . Recognition of logos
 - 2201/10 . . Recognition assisted with metadata
 - 2201/11 . . Technique with transformation invariance effect
 - 2201/12 . . Acquisition of 3D measurements of objects
 - 2201/121 . . . using special illumination
 - 2201/122 . . . Computational image acquisition in electron microscopy
 - 2201/13 . . Type of disclosure document
 - 2201/131 . . . Book

G06V

- 2201/132 . . Book chapter
- 2201/133 . . Survey article
- 2201/134 . . Technical report or standard
- 2201/135 . . Master, PhD or other thesis
- 2201/136 . . Tutorial