SECTION G — PHYSICS

G06 COMPUTING; CALCULATING; COUNTING

G06T IMAGE DATA PROCESSING OR GENERATION, IN GENERAL [6, 2006.01]

Note(s) [6, 2006.01]

This subclass covers:

- arrangements for geometrically modelling objects, whether the final model is used for display of an image of the object or for some other purpose, such as manufacture of a corresponding object;
- arrangements for analysing the geometric attributes of an image of an object.

Subclass index

1/00 General purpose image data processing [6, 2006.01]

1/20 • Processor architectures; Processor configuration, e.g. pipelining (architectures of general purpose stored programme computers G06F 15/76) **[6, 2006.01]**

1/40 • • Neural networks **[6, 2006.01]**

1/60 • Memory management **[6, 2006.01]**

3/00 Geometric image transformation in the plane of the image, e.g. from bit-mapped to bit-mapped creating a different image [6, 2006.01]

3/20 • Linear translation of a whole image or part thereof, e.g. panning **[6, 2006.01]**

3/40 • Scaling of a whole image or part thereof **[6, 2006.01]**

3/60 • Rotation of a whole image or part thereof **[6, 2006.01]**

5/00 Image enhancement or restoration, e.g. from bit-mapped to bit-mapped creating a similar image [6, 2006.01]

5/10 • by non-spatial domain filtering **[6, 2006.01]**

5/20 • by the use of local operators **[6, 2006.01]**

5/30 • • Erosion or dilatation, e.g. thinning **[6, 2006.01]**

5/40 • by the use of histogram techniques **[6, 2006.01]**

5/50 • by the use of more than one image, e.g. averaging, subtraction **[6, 2006.01]**

7/00 Image analysis [6, 2006.01, 2017.01]

7/10 • Segmentation; Edge detection (motion-based segmentation G06T 7/215) ***[2017.01]***

Note(s) [2017.01]

In this group, multi-aspect classification is applied, so that subject matter characterised by aspects covered by groups G06T 7/11, G06T 7/12 or G06T 7/13 should also be classified in any of the relevant groups G06T 7/136-G06T 7/194.

7/11 • • Region-based segmentation ***[2017.01]***

7/12 • • Edge-based segmentation ***[2017.01]***

7/13 • • Edge detection ***[2017.01]***

7/136 • • involving thresholding ***[2017.01]***

7/143 • • involving probabilistic approaches, e.g. Markov random field [MRF] modelling ***[2017.01]***

7/149 • • involving deformable models, e.g. active contour models ***[2017.01]***

7/155 • • involving morphological operators ***[2017.01]***

7/162 • • involving graph-based methods ***[2017.01]***

7/168 • • involving transform domain methods ***[2017.01]***

7/174 • • involving the use of two or more images ***[2017.01]***

7/181 • • involving edge growing; involving edge linking ***[2017.01]***

7/187 • • involving region growing; involving region merging; involving connected component labelling ***[2017.01]***

7/194 • • involving foreground-background segmentation ***[2017.01]***

7/20 • Analysis of motion (motion estimation for coding, decoding, compressing or decompressing digital video signals H04N 19/43, H04N 19/51) ***[6, 2006.01, 2017.01]***

7/207 • • *for motion estimation over a hierarchy of resolutions (multi-resolution motion estimation or hierarchical motion estimation for coding, decoding, compressing or decompressing digital video signals H04N 19/53)* ***[2017.01]***
7/215 • • *Motion-based segmentation* ***[2017.01]***
7/223 • • *using block-matching* ***[2017.01]***
7/231 • • • *using full search* ***[2017.01]***
7/238 • • • *using non-full search, e.g. three-step search* ***[2017.01]***
7/246 • • *using feature-based methods, e.g. the tracking of corners or segments* ***[2017.01]***
7/254 • • *involving subtraction of images* ***[2017.01]***
7/262 • • *using transform domain methods, e.g. Fourier domain methods* ***[2017.01]***
7/269 • • *using gradient-based methods* ***[2017.01]***
7/277 • • *involving stochastic approaches, e.g. using Kalman filters* ***[2017.01]***
7/285 • • *using a sequence of stereo image pairs* ***[2017.01]***
7/292 • • *Multi-camera tracking* ***[2017.01]***
7/30 • *Determination of transform parameters for the alignment of images, i.e. image registration* ***[2017.01]***
7/32 • • *using correlation-based methods* ***[2017.01]***
7/33 • • *using feature-based methods* ***[2017.01]***
7/35 • • *using statistical methods* ***[2017.01]***
7/37 • • *using transform domain methods* ***[2017.01]***
7/38 • • *Registration of image sequences* ***[2017.01]***
7/40 • *Analysis of texture (depth or shape recovery from texture G06T 7/529)* ***[6, 2006.01, 2017.01]***
7/41 • • *based on statistical description of texture* ***[2017.01]***
7/42 • • • *using transform domain methods* ***[2017.01]***
7/44 • • • *using image operators, e.g. filters, edge density metrics or local histograms* ***[2017.01]***
7/45 • • • *using co-occurrence matrix computation* ***[2017.01]***
7/46 • • • *using random fields* ***[2017.01]***
7/48 • • • *using fractals* ***[2017.01]***
7/49 • • *based on structural texture description, e.g. using primitives or placement rules* ***[2017.01]***
7/50 • *Depth or shape recovery* ***[2017.01]***
7/507 • • *from shading (G06T 7/586 takes precedence)* ***[2017.01]***
7/514 • • *from specularities* ***[2017.01]***
7/521 • • *from laser ranging, e.g. using interferometry; from the projection of structured light* ***[2017.01]***
7/529 • • *from texture* ***[2017.01]***
7/536 • • *from perspective effects, e.g. by using vanishing points* ***[2017.01]***
7/543 • • *from line drawings* ***[2017.01]***
7/55 • • *from multiple images* ***[2017.01]***
7/557 • • • *from light fields, e.g. from plenoptic cameras* ***[2017.01]***
7/564 • • • *from contours* ***[2017.01]***
7/571 • • • *from focus* ***[2017.01]***
7/579 • • • *from motion* ***[2017.01]***
7/586 • • • *from multiple light sources, e.g. photometric stereo* ***[2017.01]***
7/593 • • • *from stereo images* ***[2017.01]***
7/60 • *Analysis of geometric attributes* ***[6, 2006.01, 2017.01]***
7/62 • • *of area, perimeter, diameter or volume* ***[2017.01]***
7/64 • • *of convexity or concavity* ***[2017.01]***
7/66 • • *of image moments or centre of gravity* ***[2017.01]***
7/68 • • *of symmetry* ***[2017.01]***
7/70 • *Determining position or orientation of objects or cameras (camera calibration G06T 7/80)* ***[2017.01]***
7/73 • • *using feature-based methods* ***[2017.01]***
7/77 • • *using statistical methods* ***[2017.01]***
7/80 • *Analysis of captured images to determine intrinsic or extrinsic camera parameters, i.e. camera calibration* ***[2017.01]***
7/90 • *Determination of colour characteristics* ***[2017.01]***

9/00 **Image coding, e.g. from bit-mapped to non bit-mapped** (compression in general H03M; compression for image communication H04N) **[6, 2006.01]**
9/20 • Contour coding, e.g. using detection of edges **[6, 2006.01]**
9/40 • Tree coding, e.g. quadtree, octree **[6, 2006.01]**

11/00 **2D [Two Dimensional] image generation [6, 2006.01]**
11/20 • Drawing from basic elements, e.g. lines or circles **[6, 2006.01]**
11/40 • Filling a planar surface by adding surface attributes, e.g. colour or texture **[6, 2006.01]**
11/60 • Editing figures and text; Combining figures or text **[6, 2006.01]**
11/80 • Creating or modifying a manually drawn or painted image using a manual input device, e.g. mouse, light pen, direction keys on keyboard **[6, 2006.01]**

13/00 **Animation [6, 2006.01, 2011.01]**
13/20 • 3D [Three Dimensional] animation **[2011.01]**
13/40 • • of characters, e.g. humans, animals or virtual beings **[2011.01]**
13/60 • • of natural phenomena, e.g. rain, snow, water or plants **[2011.01]**
13/80 • 2D animation, e.g. using sprites **[2011.01]**

15/00 **3D [Three Dimensional] image rendering [6, 2006.01, 2011.01]**
15/02 • Non-photorealistic rendering **[2011.01]**
15/04 • Texture mapping **[2011.01]**
15/06 • Ray-tracing **[2011.01]**
15/08 • Volume rendering **[2011.01]**
15/10 • Geometric effects **[6, 2006.01, 2011.01]**
15/20 • • Perspective computation **[6, 2006.01, 2011.01]**
15/30 • • Clipping **[6, 2006.01, 2011.01]**
15/40 • • Hidden part removal **[6, 2006.01, 2011.01]**
15/50 • Lighting effects **[6, 2006.01, 2011.01]**
15/55 • • Radiosity **[2011.01]**
15/60 • • Shadow generation **[6, 2006.01]**
15/80 • • Shading **[2011.01]**
15/83 • • • Phong shading **[2011.01]**
15/87 • • • Gouraud shading **[2011.01]**

17/00 **3D modelling for computer graphics [6, 2006.01]**
17/05 • Geographic models **[2011.01]**
17/10 • Volume description, e.g. cylinders, cubes or using CSG [Constructive Solid Geometry] **[6, 2006.01]**
17/20 • Wire-frame description, e.g. polygonalisation or tessellation **[6, 2006.01]**
17/30 • Surface description, e.g. polynomial surface description **[6, 2006.01]**

19/00 **Manipulating 3D models or images for computer graphics [2011.01]**
19/20 • Editing of 3D images, e.g. changing shapes or colours, aligning objects or positioning parts **[2011.01]**