Assignment 1 **Sai Krishna Kiran Beathanabhotla**
01690333

Journal Finder

Source: ACM *Transactions on Graphics* (TOG)

1. Discrete Time Evolution Process Descriptor for Shape Analysis and Matching

BibTeX:

```
@article{Melzi:2018:DTE:3151031.3144454,
 author = {Melzi, Simone and Ovsjanikov, Maks and Roffo, Giorgio and Cristani, Marco and Castellani, Umberto},
 title = {Discrete Time Evolution Process Descriptor for Shape Analysis and Matching},
 journal = {ACM Trans. Graph.},
 issue_date = {January 2018},
 volume = {37},
 number = {1},
 month = jan,
 year = {2018},
 issn = {0730-0301},
 pages = {4:1--4:18},
 articleno = {4},
 numpages = {18},
 url = {http://doi.acm.org/10.1145/3144454},
 doi = {10.1145/3144454},
 acmid = {3144454},
 publisher = {ACM},
 address = {New York, NY, USA},
 keywords = {Discrete time evolution process, geodesic distances, point-to-point matching, shape signature},
}
```

ACM Ref:

Simone Melzi, Maks Ovsjanikov, Giorgio Roffo, Marco Cristani, and Umberto Castellani. 2018. Discrete Time Evolution Process Descriptor for Shape Analysis and Matching. ACM Trans. Graph. 37, 1, Article 4 (January 2018), 18 pages. DOI: https://doi.org/10.1145/3144454

2. A first-order analysis of lighting, shading, and shadows

BibTeX:

```
@article{Ramamoorthi:2007:FAL:1189762.1189764,
 author = {Ramamoorthi, Ravi and Mahajan, Dhruv and Belhumeur, Peter},
 title = {A First-order Analysis of Lighting, Shading, and Shadows},
 journal = {ACM Trans. Graph.},
 issue_date = {January 2007},
 volume = {26},
 number = {1},
 month = jan,
 year = {2007},
 issn = {0730-0301},
 articleno = {2},
 url = {http://doi.acm.org/10.1145/1189762.1189764},
 doi = {10.1145/1189762.1189764},
 acmid = {1189764},
 publisher = {ACM},
 address = {New York, NY, USA},
```

keywords = {Fourier analysis, Gradients, reflectance, shadows},
}

ACM Ref:

Ravi Ramamoorthi, Dhruv Mahajan, and Peter Belhumeur. 2007. A first-order analysis of lighting, shading, and shadows. ACM Trans. Graph. 26, 1, Article 2 (January 2007). DOI: https://doi.org/10.1145/1189762.1189764

Source: IEEE *Transactions on Visualization and Computer Graphics* (TVCG)

1. SmartAdP: Visual Analytics of Large-scale Taxi Trajectories for Selecting Billboard Locations

BibTeX:

@article{7534856,
author={D. Liu and D. Weng and Y. Li and J. Bao and Y. Zheng and H. Qu and Y. Wu}, journal={IEEE Transactions on Visualization and Computer Graphics},
title={SmartAdP: Visual Analytics of Large-scale Taxi Trajectories for Selecting Billboard Locations},
year={2017},
volume={23},
number={1},
pages={1-10},
keywords={Global Positioning System;advertising data processing;data analysis;data mining;data visualisation;interactive systems;SmartAdP;advertising planners;billboard location selection;billboard placements;data visualization;interactive visual analytics system;large-scale GPS trajectory data;large-scale taxi trajectories;metaphor-based glyphs;visualization-driven data mining model;Advertising;Data mining;Data visualization;Public transportation;Trajectory;Visual analytics;comparative analysis;optimal billboard locations;taxi trajectory;visual analytics},
doi={10.1109/TVCG.2016.2598432},
ISSN={1077-2626},
month={Jan},}

Citation:

D. Liu *et al*., "SmartAdP: Visual Analytics of Large-scale Taxi Trajectories for Selecting Billboard Locations," in *IEEE Transactions on Visualization and Computer Graphics*, vol. 23, no. 1, pp. 1-10, Jan. 2017.
URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7534856&isnumber=7747554

2. High-quality animation of 2D steady vector fields

BibTeX:

@article{1260754,
author={W. Lefer and B. Jobard and C. Leduc},
journal={IEEE Transactions on Visualization and Computer Graphics},
title={High-quality animation of 2D steady vector fields},
year={2004},
volume={10},
number={1},
pages={2-14},
keywords={computer animation;data visualisation;flow visualisation;image texture;2D steady vector field;flow visualization technique;high-quality animation;multimodal visualization;texture mapping;textured representation;Animation;Cost function;Data structures;Encoding;Java;Proposals;Real time systems;Topology;Visualization;Workstations;Algorithms;Computer Graphics;Computer Simulation;Image Enhancement;Image Interpretation, Computer-Assisted;Movement;Rheology;User-Computer Interface;Video Recording},
doi={10.1109/TVCG.2004.1260754},

ISSN={1077-2626},
month={Jan},}

Citation:

W. Lefer, B. Jobard and C. Leduc, "High-quality animation of 2D steady vector fields," in *IEEE Transactions on Visualization and Computer Graphics*, vol. 10, no. 1, pp. 2-14, Jan.-Feb. 2004.
URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1260754&isnumber=28177

Source: IEEE *Computer Graphics and Applications* (CG&A)

1. Playing with Senses in VR: Alternate Perceptions Combining Vision and Touch

BibTeX:

@ARTICLE{7819390,
author={A. Lécuyer},
journal={IEEE Computer Graphics and Applications},
title={Playing with Senses in VR: Alternate Perceptions Combining Vision and Touch},
year={2017},
volume={37},
number={1},
pages={20-26},
keywords={haptic interfaces;human computer interaction;virtual reality;body-ownership illusions;pseudo-haptic effects;self-motion sensations;sensorial situations;touch perception;virtual reality;vision perception;Avatars;Context modeling;Haptic interfaces;Three-dimensional displays;Two dimensional displays;Virtual environments;Visualization;body-ownership illusion;computer graphics;pseudo-haptic feedback;self-motion sensation;spatial interfaces;virtual environment;virtual reality},
doi={10.1109/MCG.2017.14},
ISSN={0272-1716},
month={Jan},}

Citation:

A. Lécuyer, "Playing with Senses in VR: Alternate Perceptions Combining Vision and Touch," in *IEEE Computer Graphics and Applications*, vol. 37, no. 1, pp. 20-26, Jan.-Feb. 2017.
URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7819390&isnumber=7819376

2. A visual analytics agenda

BibTeX:

@ARTICLE{1573625,
author={J. J. Thomas and K. A. Cook},
journal={IEEE Computer Graphics and Applications},
title={A visual analytics agenda},
year={2006},
volume={26},
number={1},
pages={10-13},
keywords={data analysis;data visualisation;research and development;National Visualization and Analytics Center;analytical reasoning techniques;data representations;data transformations;information visualization;interaction techniques;scientific visualization;visual analytics R&D agenda;visual representations;Bandwidth;Collaboration;Context;Data visualization;Decision making;Humans;Information analysis;Production;Research and development;Visual analytics;analytical reasoning;information presentation and dissemination;interaction techniques;research recommendations;technology transfer;visual analytics;visual representations;Computer Graphics;Database Management Systems;Government Programs;Information Storage and

Retrieval;Organizational Objectives;Research;Security Measures;Terrorism;United States;User-Computer Interface},
doi={10.1109/MCG.2006.5},
ISSN={0272-1716},
month={Jan},}

Citation:

J. J. Thomas and K. A. Cook, "A visual analytics agenda," in *IEEE Computer Graphics and Applications*, vol. 26, no. 1, pp. 10-13, Jan.-Feb. 2006.
URL: http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=1573625&isnumber=33273

Source: ACM SIGGRAPH *Computer Graphics*

1. Appearance Modeling via Proxy-to-Image Alignment

BibTeX:

@article{Huang:2018:AMV:3151031.3158353,
author = {Huang, Hui and Xie, Ke and Ma, Lin and Lischinski, Dani and Gong, Minglun and Tong, Xin and Cohen-Or, Daniel},
title = {Appearance Modeling via Proxy-to-Image Alignment},
journal = {ACM Trans. Graph.},
issue_date = {January 2018},
volume = {37},
number = {1},
month = jan,
year = {2018},
issn = {0730-0301},
pages = {10:1--10:15},
articleno = {10},
numpages = {15},
url = {http://doi.acm.org/10.1145/3158353},
doi = {10.1145/3158353},
acmid = {3158353},
publisher = {ACM},
address = {New York, NY, USA},
keywords = {Appearance modeling, appearance transfer, detail extraction, intrinsic image decomposition, shape alignment, shape deformation, texture synthesis},
}

ACM Ref:

Hui Huang, Ke Xie, Lin Ma, Dani Lischinski, Minglun Gong, Xin Tong, and Daniel Cohen-Or. 2018. Appearance Modeling via Proxy-to-Image Alignment. ACM Trans. Graph. 37, 1, Article 10 (January 2018), 15 pages. DOI: https://doi.org/10.1145/3158353

2. A semi-Lagrangian contouring method for fluid simulation

BibTeX:

@article{Bargteil:2006:SCM:1122501.1122503,
author = {Bargteil, Adam W. and Goktekin, Tolga G. and O'Brien, James F. and Strain, John A.},
title = {A semi-Lagrangian Contouring Method for Fluid Simulation},
journal = {ACM Trans. Graph.},
issue_date = {January 2006},
volume = {25},
number = {1},
month = jan,
year = {2006},

issn = {0730-0301},
pages = {19--38},
numpages = {20},
url = {http://doi.acm.org/10.1145/1122501.1122503},
doi = {10.1145/1122501.1122503},
acmid = {1122503},
publisher = {ACM},
address = {New York, NY, USA},
keywords = {Natural phenomena, computational fluid dynamics, level-set methods, physically based animation, semi-Lagrangian contouring, surface tracking},
}

ACM Ref:

Adam W. Bargteil, Tolga G. Goktekin, James F. O'Brien, and John A. Strain. 2006. A semi-Lagrangian contouring method for fluid simulation. ACM Trans. Graph. 25, 1 (January 2006), 19-38. DOI=http://dx.doi.org/10.1145/1122501.1122503

Source: *Computers and Graphics* (C&G)

1. Hierarchy-based projection of high-dimensional labeled data to reduce visual clutter

BibTeX:

@article{HERR201728,
title = "Hierarchy-based projection of high-dimensional labeled data to reduce visual clutter",
journal = "Computers & Graphics",
volume = "62",
pages = "28 - 40",
year = "2017",
issn = "0097-8493",
doi = "https://doi.org/10.1016/j.cag.2016.12.004",
url = "http://www.sciencedirect.com/science/article/pii/S0097849316301388",
author = "Dominik Herr and Qi Han and Steffen Lohmann and Thomas Ertl",
keywords = "Projection visualization, Information search and retrieval, Clustering, Visual analytics"
}

Citation:

Dominik Herr, Qi Han, Steffen Lohmann, Thomas Ertl,
Hierarchy-based projection of high-dimensional labeled data to reduce visual clutter, Computers & Graphics, Volume 62, 2017, Pages 28-40, ISSN 0097-8493, https://doi.org/10.1016/j.cag.2016.12.004.
(http://www.sciencedirect.com/science/article/pii/S0097849316301388)

2. Fast, parallel, and asynchronous construction of BVHs for ray tracing animated scenes

BibTeX:

@article{WALD20083,
title = "Fast, parallel, and asynchronous construction of BVHs for ray tracing animated scenes",
journal = "Computers & Graphics",
volume = "32",
number = "1",
pages = "3 - 13",
year = "2008",
issn = "0097-8493",
doi = "https://doi.org/10.1016/j.cag.2007.11.004",
url = "http://www.sciencedirect.com/science/article/pii/S0097849307002014",
author = "Ingo Wald and Thiago Ize and Steven G. Parker",

keywords = "Ray tracing, Acceleration structure, BVH, Dynamic scenes"
}

Citation:

Ingo Wald, Thiago Ize, Steven G. Parker,
Fast, parallel, and asynchronous construction of BVHs for ray tracing animated scenes, Computers & Graphics, Volume 32, Issue 1, 2008, Pages 3-13, ISSN 0097-8493, https://doi.org/10.1016/j.cag.2007.11.004.
(http://www.sciencedirect.com/science/article/pii/S0097849307002014)

Source: *Computer Graphics Forum* (CGF)

1. Inversion Fractals and Iteration Processes in the Generation of Aesthetic Patterns.

BibTeX:

@article{12144353020170102,
Abstract = {In this paper, we generalize the idea of star-shaped set inversion fractals using iterations known from fixed point theory. We also extend the iterations from real parameters to so-called q-system numbers and proposed the use of switching processes. All the proposed generalizations allowed us to obtain new and diverse fractal patterns that can be used, e.g. as textile and ceramics patterns. Moreover, we show that in the chaos game for iterated function systems-which is similar to the inversion fractals generation algorithm-the proposed generalizations do not give interesting results. [ABSTRACT FROM AUTHOR]},
Author = {Gdawiec, K.},
ISSN = {01677055},
Journal = {Computer Graphics Forum},
Keywords = {TEXTILE patterns, FRACTALS, ITERATIVE methods (Mathematics), FIXED point theory, CHAOS theory, aesthetic pattern, fractal, G.1.2 [Mathematics and Computing]: Approximation-Wavelets and fractals; I.3.5 [Computer Graphics]: Computational geometry and object modelling-Geometric algorithms, generative art, inversion, iteration, languages and systems; I.3.m [Computer Graphics]: Miscellaneous-},
Pages = {35 - 45},
Title = {Inversion Fractals and Iteration Processes in the Generation of Aesthetic Patterns.},
Volume = {36},
URL =
{https://umasslowell.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=121443530&site=ehost-live},
Year = {2017},
}

2. A framework for quad/triangle subdivision surface fitting: Application to mechanical objects

BibTeX:

@article{2445838020070301,
Abstract = {In this paper we present a new framework for subdivision surface approximation of three-dimensional models represented by polygonal meshes. Our approach, particularly suited for mechanical or Computer Aided Design (CAD) parts, produces a mixed quadrangle-triangle control mesh, optimized in terms of face and vertex numbers while remaining independent of the connectivity of the input mesh. Our algorithm begins with a decomposition of the object into surface patches. The main idea is to approximate the region boundaries first and then the interior data. Thus, for each patch, a first step approximates the boundaries with subdivision curves (associated with control polygons) and creates an initial subdivision surface by linking the boundary control points with respect to the lines of curvature of the target surface. Then, a second step optimizes the initial subdivision surface by iteratively moving control points and enriching regions according to the error distribution. The final control },
Author = {Lavoué, Guillaume and Dupont, Florent and Baskurt, Atilla},
ISSN = {01677055},

Journal = {Computer Graphics Forum},
Keywords = {COMPUTER graphics, COMPUTER-aided design, SPLINES, COMPUTER algorithms, THREE-dimensional display systems, approximation, CAD, G.1.2 Numerical Analysis: Approximation of Surfaces and Contours, I.3.5 Computer Graphics Curve Surface Solid and Object Representations, mesh, subdivision curve, subdivision surface},
Number = {1},
Pages = {1 - 14},
Title = {A framework for quad/triangle subdivision surface fitting: Application to mechanical objects.},
Volume = {26},
URL =
{https://umasslowell.idm.oclc.org/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=24458380&site=ehost-live},
Year = {2007},
}

Source: Visual Computer

1. Multimodal non-rigid image registration based on elastodynamics

BibTeX:

@Article{Ahmad2018,
author="Ahmad, Sahar
and Khan, Muhammad Faisal",
title="Multimodal non-rigid image registration based on elastodynamics",
journal="The Visual Computer",
year="2018",
month="Jan",
day="01",
volume="34",
number="1",
pages="21--27",
abstract="In this paper, we present a new multimodal image registration technique established on elastodynamics notion. The main idea behind this concept is the progression of waves on an elastic body as soon as it is disturbed from its initial rest state. We propose to solve the multimodal registration problem by modeling the non-linear deformations as elastic waves and iteratively solving the elastodynamics wave equation to estimate the transformation. The inertial force in elastodynamics model is computed as the gradient of mutual information which considers the statistical relationship between the intensities of the images acquired using different imaging modalities. We tested our method on T1--T2 weighted MR brain image pairs and MR-CT brain image pairs. The proposed registration technique was compared against a variant of demons method proposed for multimodal images. The registration results were analyzed by examining the overlay images and by computing the normalized mutual information. The qualitative and quantitative analysis proved that our proposed method registers the images better than the compared method.",
issn="1432-2315",
doi="10.1007/s00371-016-1307-z",
url="https://doi.org/10.1007/s00371-016-1307-z"
}

2. Acceleration of direct volume rendering with programmable graphics hardware

BibTeX:

@Article{YalımKeleş2007,
author="Yal{\i}m Kele{\c{s}}, Hacer
and Es, Alphan

and {\.{I}}{\c{s}}ler, Veysi",
title="Acceleration of direct volume rendering with programmable graphics hardware",
journal="The Visual Computer",
year="2007",
month="Jan",
day="01",
volume="23",
number="1",
pages="15--24",
abstract="We propose a method to accelerate direct volume rendering using programmable graphics hardware (GPU). In the method, texture slices are grouped together to form a texture slab. Rendering non-empty slabs from front to back viewing order generates the resultant image. Considering each pixel of the image as a ray, slab silhouette maps (SSMs) are used to skip empty spaces along the ray direction per pixel basis. Additionally, SSMs contain terminated ray information. The method relies on hardware z-occlusion culling and hardware occlusion queries to accelerate ray traversals. The advantage of this method is that SSMs are created on the fly by the GPU without any pre-processing. The cost of generating the acceleration structure is very small with respect to the total rendering time. ",
issn="1432-2315",
doi="10.1007/s00371-006-0084-5",
url="https://doi.org/10.1007/s00371-006-0084-5"
}