

**Book Chapters**

N. Vitsas, A. Gkaravelis, **A. A. Vasilakis**, G. Papaioannou, *WebRays: Ray Tracing on the Web*, Ray Tracing Gems II, ch. 18, 281-299, August, 2021. DOI: [10.1007/978-1-4842-7185-8\\_18](https://doi.org/10.1007/978-1-4842-7185-8_18)

**Journals**

**A. A. Vasilakis**, N. Vitsas, G. Papaioannou, A. Gkaravelis, *Remote Teaching Advanced Rendering Topics using the Rayground Platform*, IEEE Computer Graphics & Applications, Volume 41, Issue 5, 99-103, September, 2021. DOI: [10.1109/MCG.2021.3093734](https://doi.org/10.1109/MCG.2021.3093734)

I. Evangelou, G. Papaioannou, K. Vardis, **A. A. Vasilakis**, *Fast Radius Search Exploiting Ray Tracing Frameworks*, Journal of Computer Graphics Techniques (JCGT), vol. 10, no. 1, 25-48, 2021. URL: <http://icgt.org/published/0010/01/02/>

I. Evangelou, G. Papaioannou, K. Vardis, **A. A. Vasilakis**, *Rasterization-based Progressive Photon Mapping*, The Visual Computer (Proceedings of CGI 2020), 36, 1993-2004, July, 2020. DOI: [10.1007/s00371-020-01897-3](https://doi.org/10.1007/s00371-020-01897-3) (acc. rate 22.75%)

**A. A. Vasilakis**, K. Vardis, G. Papaioannou, *A Survey of Multifragment Rendering*, Computer Graphics Forum (proc. Eurographics 2020, STAR), 39(2), pages 623-642, May, 2020. DOI: [10.1111/cgf.14019](https://doi.org/10.1111/cgf.14019)

N. Vitsas, G. Papaioannou, A. Gkaravelis, **A. A. Vasilakis**, *Illumination-Guided Furniture Layout Optimization*, Computer Graphics Forum (proc. Eurographics 2020), 39(2), pages 291-301, May, 2020. DOI: [10.1111/cgf.13930](https://doi.org/10.1111/cgf.13930) (acc. rate 34.75%)

A. Lalos, **A. A. Vasilakis**, A. Dimas and K. Moustakas, *Adaptive Compression of Animated Meshes by Exploiting Orthogonal Iterations*, The Visual Computer (Proceedings of CGI 2017), Vol. 33, Issue 6, pages 811-821, 2017. DOI: [10.1007/s00371-017-1395-4](https://doi.org/10.1007/s00371-017-1395-4) (acc. rate 20%)

**A. A. Vasilakis**, G. Papaioannou and I. Fudos, *k+-buffer: An efficient, memory-friendly and dynamic k-buffer framework*, IEEE Transactions on Visualization and Computer Graphics, vol. 21, no. 6, pages 688-700, June, 2015. DOI: [10.1109/TVCG.2015.2417581](https://doi.org/10.1109/TVCG.2015.2417581)

**A. A. Vasilakis** and I. Fudos, *Pose Partitioning for Multi-resolution Segmentation of Arbitrary Mesh Animations*, Computer Graphics Forum (Proceedings of Eurographics 2014), vol. 33 no. 2, pages 293-302, April, 2014. DOI: [10.1111/cgf.12327](https://doi.org/10.1111/cgf.12327) (acc. rate 25%)

**A. A. Vasilakis** and I. Fudos, *Depth-fighting Aware Methods for Multifragment Rendering*, IEEE Transactions on Visualization and Computer Graphics, vol. 19, no. 6, pages 967-977, 06/2013. DOI: [10.1109/TVCG.2012.300](https://doi.org/10.1109/TVCG.2012.300)

J. Rossignac, I. Fudos, and **A. A. Vasilakis**, *Direct rendering of Boolean combinations of self-trimmed surfaces*. Computer-Aided Design 45.2 (2013): 288-300. DOI: [10.1016/j.cad.2012.10.012](https://doi.org/10.1016/j.cad.2012.10.012)

**A. A. Vasilakis** and I. Fudos, *GPU Rigid Skinning using a Refined Skeletonization Method*, Computer Animation and Virtual Worlds, 22: 27-46, 2011. DOI: [10.1002/cav.382](https://doi.org/10.1002/cav.382)

**Conferences**

K. Vardis, **A. A. Vasilakis** and G. Papaioannou, *Illumination-driven Light Probe Placement*, Eurographics 2021 (Posters), Vienna, Austria, May 3–7, 2021. DOI: [10.2312/egp.20211026](https://doi.org/10.2312/egp.20211026)

N. Vitsas, A. Gkaravelis, **A. A. Vasilakis**, K. Vardis, G. Papaioannou, *Rayground: An Online Educational Tool for Ray Tracing*, Proc. of Eurographics 2020 - Education Papers, pages 01-08, May 25-29, 2020. DOI: [10.2312/eged.20201027](https://doi.org/10.2312/eged.20201027)

**A. A. Vasilakis**, K. Vardis, G. Papaioannou and K. Moustakas, *Variable k-buffer using Importance Maps*, In Proceedings of the 38th Annual Conference of Eurographics (EG '17), Short Papers, pages 21-24, Lyon, France, April 24-28, 2017. DOI: [10.2312/egsh.20171005](https://doi.org/10.2312/egsh.20171005)

**A. A. Vasilakis**, I. Fudos and G. Antonopoulos, *PPS: Pose-to-Pose Skinning of Animated Meshes*, In Proceedings of the 2016 Computer Graphics International Conference (CGI '16), Short Papers, pages 53-56, Heraklion, Crete, Greece, June 28-July 1, 2016. DOI: [10.1145/2949035.2949049](https://doi.org/10.1145/2949035.2949049)

K. Vardis, **A. A. Vasilakis** and G. Papaioannou, *DIRT: Deferred Image-based Ray Tracing*, In Proceedings of the 8th Conference on High-Performance Graphics (HPG '16), pages 1- 11, Dublin, Ireland, June 20-22, 2016. DOI: [10.2312/hpg.20161193](https://doi.org/10.2312/hpg.20161193) (acc. rate 53%)

K. Vardis, **A. A. Vasilakis** and G. Papaioannou, *A Multiview and Multilayer Approach for Interactive Ray Tracing*, In Proceedings of 20th meeting of the ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D '16), pages 171-178, Redmond, WA, USA, February 27-28, 2016. DOI: [10.1145/2856400.2856401](https://doi.org/10.1145/2856400.2856401) (acc. rate 42%)

**A. A. Vasilakis** and G. Papaioannou, *Improving k-buffer methods via Occupancy Maps*, In Proceedings of the 36th Annual Conference of Eurographics (EG '15), Short Papers, pages 69-72, Zurich, Switzerland, May 4-8, 2015. DOI: [10.2312/egsh.20151017](https://doi.org/10.2312/egsh.20151017)

**A. A. Vasilakis** and G. Papaioannou, *Accelerating k+-buffer using efficient fragment culling*, ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games 2015 (Posters), pages 129-129, San Francisco, California, USA, February 27-March 01, 2015. DOI: [10.1145/2699276.2721402](https://doi.org/10.1145/2699276.2721402)

E. Eftaxopoulos, **A. A. Vasilakis** and I. Fudos, *AR-TagBrowse: Annotating and Browsing 3D models on Mobile Devices*, Eurographics 2014 (Posters), Strasbourg, France, April 7-11, 2014.

**A. A. Vasilakis** and I. Fudos, *k+-buffer: Fragment Synchronized k-buffer*, In Proceedings of the 18th meeting of the ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D '14), pages 143-150, San Francisco, California, USA, March 14-16, 2014. DOI: [10.1145/2556700.2556702](https://doi.org/10.1145/2556700.2556702) (acc. rate 40%)

**A. A. Vasilakis** and I. Fudos, *S-buffer: Sparsity-aware Multi-fragment Rendering*, In Proceedings of the 33rd Annual Conference of Eurographics (EG '12), Short Papers, pages 101-104, Cagliari, Italy, May 13-18, 2012. DOI: [10.2312/conf/EG2012/short/101-104](https://doi.org/10.2312/conf/EG2012/short/101-104)

**A. A. Vasilakis** and I. Fudos, *Z-fighting aware depth Peeling*, SIGGRAPH 2011 (Posters), Vancouver, Canada, August 7-11, 2011. DOI: [10.1145/2037715.2037801](https://doi.org/10.1145/2037715.2037801)

**A. A. Vasilakis**, G. Antonopoulos and I. Fudos, *Pose-to-Pose Skinning of Animated Meshes*, ACM/Eurographics Symposium on Computer Animation (Posters), Vancouver, Canada, August 5-7, 2011.

**A. A. Vasilakis** and I. Fudos, *Skeleton-based Rigid Skinning for Character Animation*, In Proceedings of the Fourth International Conference on Computer Graphics Theory and Applications (GRAPP '09), pages 302-308, Lisbon, Portugal, February 5-8, 2009.

#### Technical Reports

**A. A. Vasilakis**, V. Vassalos, *Report on Recent Information Visualization Research with Applications on Financial Data*, October 2019.

A. Gkaravelis, C. Kalampokis, G. Papaioannou, K. Vardis, and **A. A. Vasilakis**, *STAR on Interactive Global Illumination Techniques and Inverse Lighting Problems*, [GLIDE: Goal-driven Lighting for Dynamic 3D Environments, Deliverable 1.1](#), August 2014.

#### Other Publications

S. Kalogiannis, K. Deltouzos, E. Zacharaki, **A. A. Vasilakis**, K. Moustakas, J. Ellul, V. Megalooikonomou, *Integrating an openEHR-based personalized virtual model for the ageing population within HBase*, BMC Medical Informatics and Decision Making 19: 25, 2019. DOI: [10.1186/s12911-019-0745-8](https://doi.org/10.1186/s12911-019-0745-8)