Andreas-Alexandros Vasilakis   Computer Graphics R&D

PERSONAL INFORMATION	Born	12-10-1983, Corfu, Greece
	Address	43, Dim. Malagardi Str, Korydallos, Athens GR18120, Greece
	Mobile phone number	(+30) 6948594978

CONTACT INFORMATION	*Web*:	https://abasilak.github.io/
	E-mail:	andreas.alex.vasilakis@gmail.com
	LinkedIn, Skype, Twitter, GitHub:	abasilak

EDUCATION

The Ioannina University, Dept. of Computer Science & Engineering, Greece

PhD   **Sep 2008 to Jan 2014**
Thesis title: *Direct Rendering of Feature-based Skinning Deformations*

Master (8.92/10.0)   **Feb 2006 to Jul 2008**
Thesis title: *Robust Skeletal Animation of Articulated Modular Solid Objects*

Bachelor (7.22/10.0)   **Sep 2001 to Feb 2006**
Thesis title: *3D Reconstruction of Objects using 2D Figures*

INDUSTRIAL EXPERIENCE

Think Silicon S.A., IT Company, Greece

Senior Software Engineer   **Sep 2018 to Dec 2018**
Software Engineer   **Nov 2017 to Aug 2018**

RESEARCH PROJECT EXPERIENCE

Athens University of Economics and Business, Dept. of Informatics, Greece

Postdoc Researcher   **Mar 2020 to Jan 2022**
"*LumiBricks: Modular Illumination Transfer for Photorealistic Visualization on Commodity Hardware*"

Postdoc Researcher   **Jun 2019 to Now**
"*Rayground.com: an online educational tool for rapid prototyping of ray tracing algorithms*"

Postdoc Researcher   **Nov 2019 to Dec 2020**
"*Proof-of-concept implementation of coarse shading technologies for the ARM Mali-G76 Bifrost architecture*"

Postdoc Researcher   **Mar 2019 to Oct 2019**
"*Big Data Visualization for Transaction Data*"

Think Silicon S.A., IT Company, Greece

Graphics Software Engineer   **Nov 2017 to May 2018**
"*LPGPU2: Low-Power Parallel Computing on GPUs 2*"

Graphics Software Engineer   **Jun 2018 to Nov 2018**
"*GPU-WEAR: Ultra-low power heterogeneous Graphics Processing Units for Wearable/IoT devices*"

Information Technologies Institute, Centre for Research & Technology Hellas

Postdoc Researcher   **Feb 2016 to Oct 2017**
"*FRAILSAFE: Sensing and predictive treatment of frailty and associated co-morbidities using advanced personalized models and advanced interventions*"

Athens University of Economics and Business, Dept. of Informatics, Greece

Postdoc Researcher   **Apr 2014 to Oct 2015**
"GLIDE: Goal-driven Lighting for Dynamic 3D Environments"

Postdoc Researcher   **Nov 2015 to Jan 2016**
"PRESIOUS - Predictive digitization, restoration and degradation assessment of cultural heritage objects"

The Ioannina University, Dept. of Computer Science & Engineering, Greece

Postdoc Researcher   **Mar 2014 to Mar 2014**
"Epirus On Androids"

Student Researcher   **Jul 2008 to Aug 2008**
"AEOLUS: Algorithmic Principles for Building Efficient Overlay Computers"

Student Researcher   **Oct 2007 to Dec 2007**
"Georouting: Placing and Routing in VLSI using Geometric Constraints"

University of Cyprus, Dept. of Computer Science, Cyprus

Visiting Student Researcher   **Mar 2012 to Jun 2012**
"LLP/ERASMUS practical training program on applied research in Computer Graphics"

The Aegean University, Dept. of Prod. & Systems Design Engineering, Greece

Research Associate/Junior Developer   **Feb 2009 to Oct 2009**
                                                            Dec 2007 to Mar 2008
"A New Parametric CAD system for the Reconstruction of Traditional Jewellery"

Journal Publications

A. A. Vasilakis, K. Vardis, G. Papaioannou, *A Survey of Multifragment Rendering*, Computer Graphics Forum, vol. 39 no. 2, pages xxx-xxx, May, 2020.

N. Vitsas, G. Papaioannou, A. Gkaravelis and **A. A. Vasilakis**, *Illumination-Guided Furniture Layout Optimization*, Computer Graphics Forum (Proceedings of Eurographics 2020), vol. 39 no. 2, pages xxx-xxx, May, 2020.

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

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

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

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, June, 2013. DOI: 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, Volume 45, Issue 2, February 2013, pages 288-300, ISSN 0010-4485. DOI: 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

Conference Publications	N. Vitsas, A. Gkaravelis, **A. A. Vasilakis**, K. Vardis, G. Papaioannou, *Rayground: An Online Educational Tool for Ray Tracing*, In Proceedings of the 41th Annual Conference of Eurographics (EG '20), Educational Papers, pages X-X, Norrköping, Sweden. May 25-29, 2020.

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

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

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

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

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

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

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

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

Poster Publications	**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

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, *Z-fighting aware depth Peeling*, SIGGRAPH 2011 (Posters), Vancouver, Canada, August 7-11, 2011. DOI: 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.

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

TECHNICAL REPORTS	**A. A. Vasilakis**, V. Vassalos, *Future Trends in Big Data Visualization Technology*, Feb 2020.
	A. A. Vasilakis, V. Vassalos, *Report on Recent Information Visualization Research with Applications on Financial Data*, Oct 2019.
	A. Gkaravelis, C. Kalampokis, G. Papaioannou, K. Vardis, **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.

PRESENTATIONS	**EG '20**, *A Survey of Multifragment Rendering*, Norrköping, Sweden	**May 2020**
	CS.UOI, *Improving k-buffer methods via Occupancy Maps*, Ioannina, Greece	**Feb 2015**
	EG '14, *Pose Partitioning for Multi-resolution Segmentation of Arbitrary Mesh Animations*, Strasbourg, France	**Apr 2014**
	I3D '13, *Depth-fighting Aware Methods for Multi-fragment Rendering*, Orlando, USA .	**Mar 2013**
	CS.UCY, *Multi-fragment Rendering Solutions*, Nicosia, Cyprus	**Mar 2012**

REVIEWER	Computers & Graphics, JCGT, CGI, GRAPP
RESEARCH INTERESTS	character deformation, animation compression, mesh segmentation, multi-fragment rendering, global illumination, image-based effects, virtual/augmented reality, machine learning.
MEMBERSHIP	Khronos Group, EG, ACM, ACM Greek SIGCHI, Hellenic Informatics Union

SCHOLARSHIPS	**Athens University of Economics and Business, Dept. of Informatics**, Greece	
	NSRF grant through the operational programme "Supporting researchers with emphasis on young researchers (Cycle B)"	**2020 to 2021**
	The Ioannina University, Dept. of Computer Science & Engineering, Greece	
	Heraclitus II grant through the operational programme "Education and Lifelong Learning" through the European Social Fund	**2010 to 2013**
	EPEAEK fund from the University of Ioannina	**2006 to 2007**

AWARDS	**ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games**	
	My paper titled "k^+-buffer: Fragment Synchronized k-buffer" was among the **four best papers** in I3D'14	**Mar 2014**
	ACM Stipend Grant	**Mar 2013**
	The Ioannina University, Dept. of Computer Science & Engineering, Greece	
	Highest graduate grade in my class	**Mar 2006**

ACADEMIC EXPERIENCE	**Athens University of Economics and Business, Dept. of Informatics**, Greece	
	Teaching MSc in Digital Methods for the Humanities "Interaction Design & Multimedia"	**2020**

Teaching Assistant
Tutoring, creating/grading exercises, and invigilating exams for the
undergraduate level courses on Computer Graphics (Xlib, OpenGL)   **2008 to 2013**

PhD Co-Supervision (with Prof. G. Papaioannou)
K. Vardis, *Efficient Illumination Algorithms for Global Illumination in Interactive and
Real-Time Rendering*   **Dec 2016**

The Ioannina University, Dept. of Computer Science & Engineering, Greece

Master Co-Supervision (with Prof. I. Fudos)
K. Tziomakis, *Deformation Based Volume Preservation for Mesh Animation*   **Jul 2012**
A. Lazos, *Deformation Transfer and Animation Editing*   **Jan 2012**
G. Antonopoulos, *Fast Realistic Skinning of Highly Deformable Objects*   **Nov 2010**

Bachelor Co-Supervision (with Prof. I. Fudos)
P. Savvidou, *Algorithms for normal correction of 3D meshes*   **Nov 2011**

LANGUAGES   English (Fluent), Greek (Native)