

Andreas-Alexandros Vasilakis

PERSONAL INFORMATION	Born Address Work phone number Mobile phone number	12-10-1983, Corfu, Greece Leof. Kifisias 108, GR11526, Ampelokipoi, Athens, Greece (+30) 2111069597 (+30) 6948594978
CONTACT INFORMATION	Virtual and Augmented Reality Group Information Technologies Institute Centre for Research & Technology Hellas 52, Egialias Str, Marousi, GR15125, Greece	Web: http://www.iti.gr/ abasilak Skype: abasilak E-mail: abasilak@iti.gr andreas.alex.vasilakis@gmail.com
EDUCATION	The Ioannina University, Dept. of Computer Science & Engineering , Greece (Advisor: Professor Ioannis Fudos)	
	PhD Thesis title: <i>Direct Rendering of Feature-based Skinning Deformations</i>	Sep 2008 to Jan 2014
	Master (8.92/10.0) Thesis title: <i>Robust Skeletal Animation of Articulated Modular Solid Objects</i>	Feb 2006 to July 2008
	Bachelor (7.22/10.0) Thesis title: <i>3D Reconstruction of Objects using 2D Figures</i>	Sep 2001 to Feb 2006
	2th Senior High School (18.2/20.0), Corfu, Greece	Sep 1998 to July 2001
PROFESSIONAL EXPERIENCE	Information Technologies Institute, Centre for Research & Technology Hellas, Greece	
	Postdoc Researcher <i>"FRAILSAFE: Sensing and predictive treatment of frailty and associated co-morbidities using advanced personalized models and advanced interventions"</i> Athens University of Economics and Business, Dept. of Informatics , Greece	Feb 2016 to Present
	Postdoc Researcher <i>"GLIDE: Goal-driven Lighting for Dynamic 3D Environments"</i> Research and development of high-performance multifragment rendering methods with applications on global illumination and image-based techniques. Technologies used: C++/C#, OpenGL, Optix, Subversion, L ^A T _E X. <i>"PRESIOUS - Predictive digitization, restoration and degradation assessment of cultural heritage objects"</i> The Ioannina University, Dept. of Computer Science & Engineering , Greece	Apr 2014 to Jan 2016
	PhD Researcher <i>"CA.V.E.: Caves Virtual Environment"</i> I was responsible for the 3D digitization of delicate cultural heritage objects available from Perama's Cave museum. This task included the digital recording via a 3D handheld laser scanner as well as the data processing of the digitized object, which involves the geometric & texture data processing (repairing/fairing & creation/mapping). Technologies used: Creaform Handyscan 3D Scanner, MeshLab, Geomagic Studio.	Oct 2013 to Mar 2014
	University of Cyprus, Dept. of Computer Science , Cyprus	

Visiting Research Student

Mar 2012 to Jun 2012

“LLP/ERASMUS practical training program on applied research in Computer Graphics”

The Aegean University, Dept. of Inf. and Com. Systems Engineering, Greece

Research Associate/Junior Developer

Feb 2009 to Oct 2009

“Methods development for point cloud decomposition based on 3D Jewellery applications”

I was responsible for the implementation of advanced 3D mesh segmentation algorithms. Technologies used: C++, OpenGL, OpenMP.

Research Associate/Junior Developer

Dec 2007 to Mar 2008

“ByzantineCAD: CAD/CAM Methods for Reproducing Byzantine Jewellery”

I have been involved in the development of a point cloud rendering system for 3D CAD models. Especially, I worked on porting the triangulation and normal estimation procedures on the GPU.

Technologies used: C++, OpenGL.

JOURNAL
PUBLICATIONS

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.

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.

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.

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.

A. A. Vasilakis and I. Fudos, *GPU Rigid Skinning using a Refined Skeletonization Method*, Computer Animation and Virtual Worlds, 22: 27-46, 2011.

CONFERENCE
PUBLICATIONS

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.

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.

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.

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.

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.

	A. A. Vasilakis and I. Fudos, <i>S-buffer: Sparsity-aware Multi-fragment Rendering</i> , In Proceedings of the 33rd Annual Conference of Eurographics (EG '12), Short Papers, pages 101-104, Cagliari, Italy, May 13-18, 2012.
	A. A. Vasilakis and I. Fudos, <i>Skeleton-based Rigid Skinning for Character Animation</i> , 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	<p>A. A. Vasilakis and G. Papaioannou, <i>Accelerating k^+-buffer using efficient fragment culling</i>, ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games 2015 (Posters), pages 129-129, San Francisco, California, USA, February 27-March 01, 2015.</p> <p>E. Eftaxopoulos, A. A. Vasilakis and I. Fudos, <i>AR-TagBrowse: Annotating and Browsing 3D models on Mobile Devices</i>, Eurographics 2014 (Posters), Strasbourg, France, April 7-11, 2014.</p> <p>A. A. Vasilakis and I. Fudos, <i>Z-fighting aware depth Peeling</i>, SIGGRAPH 2011 (Posters), Vancouver, Canada, August 7-11, 2011.</p> <p>A. A. Vasilakis, G. Antonopoulos and I. Fudos, <i>Pose-to-Pose Skinning of Animated Meshes</i>, ACM/Eurographics Symposium on Computer Animation (Posters), Vancouver, Canada, August 5-7, 2011.</p>
TECHNICAL REPORTS	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	<p>CS.UOI, <i>Improving k-buffer methods via Occupancy Maps</i>, Ioannina, Greece Feb 2015</p> <p>Eurographics '14, <i>Pose Partitioning for Multi-resolution Segmentation of Arbitrary Mesh Animations</i>, Strasbourg, France Apr 2014</p> <p>I3D '13, <i>Depth-fighting Aware Methods for Multi-fragment Rendering</i>, Orlando, USA Mar 2013</p> <p>CS.UCY, <i>Multi-fragment Rendering Solutions</i>, Nicosia, Cyprus Mar 2012</p>
REVIEWER	Computers & Graphics, JCGT, CGI, GRAPP
RESEARCH INTERESTS	character animation, mesh segmentation, multi-fragment rendering, global illumination, image-based effects, augmented reality.
MEMBERSHIP	ACM, EG
SCHOLARSHIPS	<p>The Ioannina University, Dept. of Computer Science & Engineering, Greece</p> <p>Heraclitus II grant through the operational programme "Education and Lifelong Learning" through the European Social Fund 2010 to 2013</p> <p>EPEAEK fund from the University of Ioannina 2006 to 2007</p>
AWARDS	<p>ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games</p> <p>My paper titled "<i>k^+-buffer: Fragment Synchronized k-buffer</i>" was among the four best papers in I3D'14 Mar 2014</p> <p>ACM Stipend Grant Mar 2013</p>

	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	
	PhD Co-Supervision (with Professor Georgios Papaioannou)	
	K. Vardis, <i>Efficient Illumination Algorithms for Global Illumination in Interactive and Real-Time Rendering</i>	Dec 2016
	The Ioannina University, Dept. of Computer Science & Engineering, Greece	
	Master Co-Supervision (with Professor Ioannis Fudos)	
	K. Tziomakis, <i>Deformation Based Volume Preservation for Mesh Animation</i>	Jul 2012
	A. Lazos, <i>Deformation Transfer and Animation Editing</i>	Jan 2012
	G. Antonopoulos, <i>Fast Realistic Skinning of Highly Deformable Objects</i>	Nov 2010
	Bachelor Co-Supervision (with Professor Ioannis Fudos)	
	P. Savvidou, <i>Algorithms for normal correction of 3D meshes</i>	Nov 2011
	Teaching Assistant	
	Tutoring, creating/grading exercises, and invigilating exams for the undergraduate level courses on Computer Graphics (Xlib, OpenGL)	2008 to 2013
TECHNICAL SKILLS	Programming Languages: C, C++ Graphics APIs: OpenGL, GLSL, Optix Multimedia Tools: Blender, Adobe Photoshop, Adobe Illustrator, Adobe Premiere Experience developing: <ul style="list-style-type: none"> • high and low-level code optimizations. • parallel applications with multithreading and GPU compute. • real-time and offline rendering systems. 	
	Secondary Skills: C#, Python, OpenCL, OpenMP, Processing, HTML/CSS, L ^A T _E X	
LANGUAGES	English (Fluent), Greek (Native)	
PERSONAL INTERESTS	Sports & Fitness Activities: Running, Bicycling, Basketball, Soccer	
	Games: Chess, Video Games, Card Games	
MILITARY SERVICE	Greek Army	May 2014 to Feb 2015