



Andreas-Alexandros Vasilakis

PERSONAL INFORMATION	Born Address Work phone number Mobile phone number	12-10-1983, Corfu, Greece Ilidos 21, 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> I am mainly responsible for the coordination of the first work package of the FrailSafe project. Among others (e.g. virtual patient modeling), I am trying to develop high-performance multi-fragment rendering solutions for mobile and VR/AR devices. Technologies used: openEHR, OpenGL ES, Augmented Reality.	Feb 2016 to Present
	Athens University of Economics and Business, Dept. of Informatics , Greece	
	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.	Apr 2014 to Jan 2016
	The Ioannina University, Dept. of Computer Science & Engineering , Greece	
	Postdoc Researcher	Mar 2014 to Mar 2014

“Epirus On Androids”

I was responsible for dissemination, communication, community building and exploitation aspects of the project.

Student Researcher

Oct 2013 to Mar 2014

“CA.V.E.: Caves Virtual Environment”

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.

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

“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. 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), pages 1-11, 2017.

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, 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.

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, *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.

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.

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.

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.

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	CS.UOI , <i>Improving k-buffer methods via Occupancy Maps</i> , Ioannina, Greece Feb 2015
	Eurographics '14 , <i>Pose Partitioning for Multi-resolution Segmentation of Arbitrary Mesh Animations</i> , Strasbourg, France Apr 2014
	I3D '13 , <i>Depth-fighting Aware Methods for Multi-fragment Rendering</i> , Orlando, USA Mar 2013
	CS.UCY , <i>Multi-fragment Rendering Solutions</i> , 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, augmented reality.
MEMBERSHIP	ACM, EG
SCHOLARSHIPS	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
	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 and Adobe Photoshop, Illustrator, 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, Git
LANGUAGES	English (Fluent), Greek (Native)
PERSONAL INTERESTS	Sports & Fitness Activities: Running, Bicycling, Basketball, Soccer Games: Chess, Video Games, Card Games
MILITARY SERVICE	Greek Army <div>May 2014 to Feb 2015</div>