

# KOSTAS VARDIS

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**Profession** Computer Scientist (BSc, MSc, PhD)  
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**Web** [kostasvardis.com](http://kostasvardis.com)

**Location** Athens, Greece  
**Date of Birth** 19<sup>th</sup> December 1982  
**Military Obligations** Fullfilled (11/2010 - 07/2011)

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## Professional Experience

- 2018 - Now** **Think Silicon**  
*Senior Software Engineer*  
Development on drivers and software tools of ultra-low power GPUs.  
**Technologies:** C, C++, OpenGL, Vulkan, Linux
- 2013 - 2017** **Athens University of Economics and Business**  
*R&D in Computer Graphics, Member of [Computer Graphics AUEB Group](#)*  
Projects:  
- Visualization Engine for the CostOS software of [Nomitech Ltd.](#) (2016-2017)  
Research, design and development of high-performance, real-time visualization solutions for large-volume 3D datasets.  
Position: Senior researcher, developer  
- [GLIDE](#) (2014-2015)  
Goal-driven Lighting for Dynamic 3D Environments (ARISTEIA II programme)  
18-month research project co-funded by the General Secretariat of Research and Technology and the European Union.  
Position: Researcher, developer  
- [PRESIOUS](#) (2013-2016)  
Predictive digitization, restoration and degradation assessment of cultural heritage objects  
3-year EU-funded STREP project (600533).  
Position: Researcher, Lead developer for Computer Graphics AUEB Group  
**Technologies:** C++, C#, OpenGL, WebGL, CUDA, Qt, etc.
- 2008 - 2013** **Oraton Simulation Intelligence Technologies**  
*Senior Software Engineer – full-time/contractor*  
Development of desktop- and web-based systems for map data visualization in the private and public sector.  
**Technologies:** C#, ASP.NET, PHP, Javascript, Silverlight, etc.
- 2008 - 2009** **Evorad**  
*Graphics and Medical Visualization Software Engineer*  
Development of GPU- and GPGPU-based software for the visualization of 3D medical images.  
**Technologies:** Java, OpenGL, CUDA
- 2006 - 2008** **SEGA – The Creative Assembly**  
*Programmer*  
Graphics Engine and UI Programmer on Empire: Total War (released on March 2009).  
**Technologies:** C++, DirectX, SpeedTree, Lua

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## Selected Personal and Freelance Projects

2010            iTMS

A client-server medical support application designed to present experts with quick and informative data of their patients on a mobile platform.

**Technologies:** Objective-C

2009 - 2011    Ingame FMScout/FM Assistant

Real-time scouting and editing utility for Sports Interactive's Football Manager 2009-2011.

**Technologies:** C#

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## Publications

- [1] A. A. Vasilakis\*, **K. Vardis\***, G. Papaioannou\*, and K. Moustakas. "**Variable  $k$ -Buffer using Importance Maps**". In: *EG 2017 - Short Papers*. Ed. by A. Peytavie and C. Bosch. The Eurographics Association, 2017 (\*these authors contributed equally to this work).  
URL: <https://diglib.eg.org/handle/10.2312/egsh20171005>.
  - [2] G. Papaioannou, T. Schreck, A. Andreadis, P. Mavridis, R. Gregor, I. Sipiran, and **K. Vardis**. "**From Reassembly to Object Completion: A Complete Systems Pipeline**". In: *J. Comput. Cult. Herit.* 10.2 (Mar. 2017), 8:1–8:22. ISSN: 1556-4673.  
URL: <http://doi.acm.org/10.1145/3009905>.
  - [3] **K. Vardis**, A. A. Vasilakis, and G. Papaioannou. "**DIRT: Deferred Image-based Ray Tracing**". In: *Eurographics/ ACM SIGGRAPH Symposium on High Performance Graphics*. Ed. by U. Assarsson and W. Hunt. Dublin, Ireland: The Eurographics Association, 2016. ISBN: 978-3-03868-008-6.  
URL: <https://diglib.eg.org/handle/10.2312/hpg20161193>.
  - [4] **K. Vardis**, A. A. Vasilakis, and G. Papaioannou. "**A Multiview and Multilayer Approach for Interactive Ray Tracing**". In: *Proceedings of the ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games*. I3D '16. Redmond, Washington: ACM, 2016, pp. 171–178. ISBN: 978-1-4503-4043-4.  
URL: <http://doi.acm.org/10.1145/2856400.2856401>.
  - [5] **K. Vardis**, G. Papaioannou, and A. Gkaravelis. "**Real-time Radiance Caching using Chrominance Compression**". In: *Journal of Computer Graphics Techniques (JCGT)* 3.4 (Dec. 2014), pp. 111–131. ISSN: 2331-7418.  
URL: <http://jcgt.org/published/0003/04/06>.  
Presented in: *Proceedings of the ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games*. I3D'15. San Francisco, California.
  - [6] **K. Vardis**, G. Papaioannou, and A. Gaitatzes. "**Multi-view Ambient Occlusion with Importance Sampling**". In: *Proceedings of the ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games*. I3D '13. Orlando, Florida: ACM, 2013, pp. 111–118. ISBN: 978-1-4503-1956-0.  
URL: <http://doi.acm.org/10.1145/2448196.2448214>.
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## Technical Reports

- [7] A. Gkaravelis\*, C. Kalampokis\*, G. Papaioannou\*, **K. Vardis\***, and A. A. Vasilakis\*. *STAR on Interactive Global Illumination Techniques and Inverse Lighting Problems*. Tech. rep. GLIDE: Goal-driven Lighting for Dynamic 3D Environments, Deliverable 1.1. Athens University of Economics and Business, Aug. 2014 (\*authors listed in alphabetical order).  
URL: <http://graphics.cs.aueb.gr/graphics/docs/GLIDE-D1.1.pdf>.
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## Research Interests

Interactive graphics, rendering techniques, illumination algorithms

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## Reviewer

Eurographics, High-Performance Graphics (HPG)

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## Teaching Experience

**2012 - 2015 Athens University of Economics and Business**  
*Teaching Assistant - Computer Science BSc*

Computer Graphics	Winter semester	4th year course
Databases	Eastern semester	2nd year course

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## Education

**2011 - 2016 Athens University of Economics and Business, Greece**  
PhD in Computer Graphics. Advisor: Prof. G. Papaioannou  
Thesis title: *"Efficient Illumination Algorithms for Global Illumination in Interactive and Real-Time Rendering"*

**2004 - 2005 University of Hull, UK**  
MSc in Virtual Environments and Visualization

**2001 - 2004 University of Sussex, UK**  
BSc (Hons) in Computer Science

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## Programming Skills

Core experience:

C++, OpenGL, GLSL

Professional experience:

C, C#, Java, Direct3D, HLSL, Objective-C, ASP.NET, SQL, JavaScript, MATLAB, PHP, Lua, etc.

General knowledge:

Assembly, HTML, CSS, Pascal, Python, VB.NET, etc.

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## Languages

*Greek* Native

*English* Fluent