

KOSTAS VARDIS

Profession Computer Scientist (BSc, MSc, PhD)
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Location Zürich, Switzerland
Military Obligations Fullfilled (11/2010 - 07/2011)

Professional Experience

- 2024 - now** **Huawei, Zürich, Switzerland**
Principal Researcher at the [Cloud Rendering Research Group](#)
 Research and development in computer graphics and machine learning.
- 2019 - 2023** **Athens University of Economics and Business, Athens, Greece**
Postdoctoral Researcher/Developer at [AUEB Computer Graphics Group](#)
 Research and development on interactive rendering and illumination algorithms.
- 2020 - 2022** **NeuroPublic S.A., Athens, Greece**
Senior Software Engineer - Contract
 Software development and machine learning on the extraction, analysis and manipulation of satellite imagery.
- 2018 - 2018** **Think Silicon, Athens, Greece**
Senior Software Engineer
 Development of drivers and software tools of ultra-low power GPUs.
- 2016 - 2018** **Athens University of Economics and Business, Athens, Greece**
Postdoctoral Researcher/Developer at [AUEB Computer Graphics Group](#)
 Research and development on interactive rendering and illumination algorithms.
- 2011 - 2016** **Athens University of Economics and Business, Athens, Greece**
Doctoral Researcher/Developer at [AUEB Computer Graphics Group](#)
 Research and development on interactive rendering and illumination algorithms.
- 2008 - 2013** **Oraton Simulation Intelligence Technologies, Athens, Greece**
Senior Software Engineer – Contract
 Development of desktop- and web-based systems for map data visualization.
- 2008 - 2009** **Evorad, Athens, Greece**
Graphics and Medical Visualization Software Engineer
 Development of GPU- and GPGPU-based software for visualizing medical images.
- 2006 - 2008** **SEGA – The Creative Assembly, Horsham, UK**
Programmer
 Graphics Engine and UI Programmer on Empire: Total War (released in March 2009).
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Selected Personal and Freelance Projects

- 2010** **TMS - Tailor-made Medical Software**
 A client-server medical support application for mobile devices.
- 2009 - 2011** **Ingame FMScout/FM Assistant**
 Real-time scouting/editing utility for Sports Interactive's Football Manager 2009-2011.

Research

- [1] I. Evangelou, G. Papaioannou, **K. Vardis**, and A. Gkaravelis, “**A Neural Builder for Spatial Subdivision Hierarchies**,” *The Visual Computer*, Jul. 2023.
- [2] N. Vitsas, **K. Vardis**, and G. Papaioannou, “**Sampling Clear Sky Models using Truncated Gaussian Mixtures**,” in *Eurographics Symposium on Rendering - DL-only Track*, A. Bousseau and M. McGuire, Eds., The Eurographics Association, 2021.
- [3] **K. Vardis**, A. A. Vasilakis, and G. Papaioannou, “**Illumination-driven Light Probe Placement**,” in *Eurographics 2021 - Posters*, J. Bittner and M. Waldner, Eds., The Eurographics Association, 2021.
- [4] I. Evangelou, G. Papaioannou, **K. Vardis**, and A. A. Vasilakis, “**Fast Radius Search Exploiting Ray Tracing Frameworks**,” *Journal of Computer Graphics Techniques (JCGT)*, Feb. 2021.
- [5] I. Evangelou, G. Papaioannou, **K. Vardis**, and A. A. Vasilakis, “**Rasterisation-based Progressive Photon Mapping**,” *The Visual Computer*, Jul. 2020.
- [6] A. A. Vasilakis*, **K. Vardis***, and G. Papaioannou, “**A Survey of Multifragment Rendering**,” *Computer Graphics Forum*, 2020 (*these authors contributed equally to this work).
- [7] N. Vitsas, A. Gkaravelis, A. A. Vasilakis, **K. Vardis**, and G. Papaioannou, “**Rayground: An Online Educational Tool for Ray Tracing**,” in *Eurographics 2020 - Education Papers*, The Eurographics Association, 2020.
- [8] A. A. Vasilakis*, **K. Vardis***, G. Papaioannou*, and K. Moustakas, “**Variable k -Buffer using Importance Maps**,” in *EG 2017 - Short Papers*, The Eurographics Association, 2017 (*these authors contributed equally to this work).
- [9] G. Papaioannou, T. Schreck, A. Andreadis, P. Mavridis, R. Gregor, I. Sipiran, and **K. Vardis**, “**From Reassembly to Object Completion: A Complete Systems Pipeline**,” *Journal on Computing and Cultural Heritage*, 2017.
- [10] **K. Vardis**, “**Efficient Illumination Algorithms for Global Illumination In Interactive and Real-Time Rendering**,” Ph.D. dissertation, Department of Informatics, Athens University of Economics and Business, 2016.
- [11] **K. Vardis**, A. A. Vasilakis, and G. Papaioannou, “**DIRT: Deferred Image-based Ray Tracing**,” in *Eurographics/ ACM SIGGRAPH Symposium on High Performance Graphics*, The Eurographics Association, 2016.
- [12] **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*, ACM, 2016.
- [13] **K. Vardis**, G. Papaioannou, and A. Gkaravelis, “**Real-time Radiance Caching using Chrominance Compression**,” *Journal of Computer Graphics Techniques (JCGT)*, Dec. 2014.
- [14] A. Gkaravelis*, C. Kalampokis*, G. Papaioannou*, **K. Vardis***, and A. A. Vasilakis*, “**STAR on Interactive Global Illumination Techniques and Inverse Lighting Problems**,” Athens University of Economics and Business, Tech. Rep., Aug. 2014 (*authors listed in alphabetical order).
- [15] **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*, ACM, 2013.

Teaching Experience

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| 2012 - 2015 | Athens University of Economics and Business | | |
| | <i>Teaching Assistant - Computer Science BSc</i> | | |
| | Computer Graphics | Winter semester | 4th year course |
| | Databases | Eastern semester | 2nd year course |

Education

2011 - 2016 **PhD in Computer Graphics**, Athens University of Economics and Business, Athens, Greece

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

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

Additional Info

Research Interests: Interactive graphics, rendering techniques, illumination algorithms

Reviewer: [SIGGRAPH](#), [SIGGRAPH Asia](#), [Eurographics](#), [Eurographics Symposium on Rendering](#) (part of [IPC 2023](#), [2024](#)), [High-Performance Graphics](#) (also part of [IPC 2021](#), [2022](#), [2023](#), [2024](#))

Languages: Greek (Native), English (Fluent), German (Basic)