Mahmoud Zeidan

Institute for Visualization and Data Analysis (IVD)

Karlsruhe Institute of Technology (KIT)

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PERSONAL DATA

Email	:	mahmoud.zeidan@kit.edu ⋄ zeidan.mahmoud@protonmail.com
Personal homepage	:	https://mahmoudsvirtualcorner.github.io/
Institute homepage	:	https://cg.ivd.kit.edu/staff/research/zeidan/mitarbeiter_zeidan.php

RESEARCH INTERESTS

Computer graphics
Scientific visualization
Parallel processing
Real-time and interactive rendering techniques

EDUCATION

Karlsruhe Institute of Technology (KIT)   *February 2016 – Present*
PhD Candidate in Computer Science   *Expected Graduation: December 2025*
Computer Graphics Group, Institute for Visualization and Data Analysis (IVD)
Thesis: Glyph-based Display and Level-of-Detail Particle Rendering for Interactive Scientific Visualization
Supervisor: Prof. Dr.-Ing. Carsten Dachsbacher

Faculty of Computer and Information Sciences, Ain Shams University, Egypt   *June 2009 – July 2011*
MSc in Computer Science
Thesis: Applying Parallel Processing Approach for Interactive Global Illumination, link
Supervisors: Prof. Dr. Taymour Nazmy, Prof. Dr. Mohamed Hashem, and Dr. Haytham El-Messiry

Faculty of Computer and Information Sciences, Ain Shams University, Egypt   *September 2005 – June 2006*
Pre-Master
Overall courses grade: Very Good $(75\% - 85\%)$

Faculty of Computer and Information Sciences, Ain Shams University, Egypt   *September 2000 – June 2004*
BSc in Computer Science
Overall grade: Excellent with Honors $(\geq 85\%)$
Senior Thesis: Ahmed Zakaria, Mahmoud Zeidan, and Ahmed Hamdy, "Photonix, a 3D Modeling Tool for Realistic Image Synthesis Using Photon Mapping", link

General Secondary Education, Egypt   *June 2000*
Math Section
Overall grade: 98%

EXPERIENCE

Karlsruhe Institute of Technology (KIT)   August 2016 - Now
Research Assistant

Since August 2020, supported by the Institute for Visualization and Data Analysis (IVD), KIT, Germany.
From February 2020 to August 2020, funded by the German Academic Exchange Service (DAAD), KIT.
From February 2016 to February 2020, funded by the Ministry of Higher Education and Scientific Research, Egypt.

Karlsruhe Institute of Technology (KIT)   August 2016 - February 2020
Teaching Assistant

Assisted in the practical sessions of: General-Purpose Computation on GPUs, GPU Computing, Graphics Programming, and Game Development.

Faculty of Computer and Information Sciences, Ain Shams University   December 2005 - February 2016
Teaching & Research Assistant   *Cairo, Egypt*

Assisted in teaching the following courses: Math I & II (Calculus), Math III (Linear Algebra), Math IV (Differential Equations), Physics, Probability and Statistics, and Structured Programming.

Microsoft Research, Advanced Technology Labs (ATLC)   October 2012 - March 2013
Research Assistant   *Cairo, Egypt*

Developed computer vision tools.
Mentor: Dr. Motaz El-Saban.

Ractors Inc.   May 2007 - December 2007
Web Developer   *Cairo, Egypt*

Worked as a back-end web developer for social media applications using PHP.

quTIP Software Company   November 2006 - April 2007
Software Developer   *Cairo, Egypt*

Worked as a software developer using Microsoft .NET tools.
Company website: http://www.qutip.com

PUBLICATIONS

Mahmoud Zeidan. "Large Particle Datasets Visualization on GPUs." IVD - KIT, under submission.

Mahmoud Zeidan, Christoph Peters, Tobias Rapp, and Carsten Dachsbacher. "Versatile Geometric Flow Visualization by Controllable Shape and Volumetric Appearance." In Proceedings of Smart Tools and Applications in Graphics (STAG), 2022. paper link.

Mahmoud Zeidan, Tobias Rapp, Christoph Peters, and Carsten Dachsbacher. "Moment-based Opacity Optimization." In Proceedings of Eurographics Symposium on Parallel Graphics and Visualization (EGPGV), 2020. paper link.

Mahmoud Zeidan, Taymour Nazmy, and Mostafa Aref. "GPU-based Out-of-Core HLBVH Construction." In Proceedings of Eurographics Symposium on Rendering (EGSR) – Experimental Ideas & Implementation (EI&I), 2015. paper link.

TECHNICAL STRENGTHS

Programming Languages	:	C/C++, Matlab, and Python
Research Tools	:	OpenGL, GLSL, Vulkan, and CUDA
Software Tools	:	GIMP, Clip Studio Paint, Blender, Inkscape, Git, Vim, and Bash scripting
Operating Systems	:	Linux and Windows

LANGUAGES

Arabic (Egypt)	:	Native
English	:	Professional working proficiency
German	:	Daily life interactions

Last updated: October 15, 2025