



Andreas Karge M.Sc.

Curriculum Vitae

Personal Details

Nationality:	German	Address:	Kastellweg 9 D-72072 Tübingen
Date of Birth:	05-05-1971	Mobil:	+49 - 173 - 2 84 95 14
Place of Birth:	Halle/Saale, Germany		
Marital Status:	Unmarried, two children	e-mail:	andreas.karge@gmx.de

Profile

Interdisciplinary skills in software engineering, image processing, color management and optics

14 years of experience in design, development and testing in software projects with more than 6 millions lines of code

Spectral response measurements of lighting and camera systems, spectral data based camera color calibration methods

Professional Experience

since 2016	University of Tübingen, Wilhelm-Schickard-Institute of Computer Science, Visual Computing PhD Researcher (permanent)
	Monochromator and spectroscope based camera spectral response measurements
	Nonlinear optimization methods for spectral data based color correction, ICC and ACES-IDT profile applications for machine vision, cine/TV and photographic camera systems
	Using C++ (Ceres, Eigen), MATLAB (image processing and optimization toolbox), OpenCV, OpenCL, OpenGL, Qt, QtCreator
2013-2015	Media University Stuttgart, Institute of Applied Sciences, Academic Research Assistant (permanent)
	Research project in color management for professional cine and tv camera systems; measuring spectral response of camera systems and spectral power distribution of cine lighting; development of client/server based camera color profile calculation, design and construction of spectroscopic components
	Using MATLAB, PHP

- since 2005 GMG GmbH & Co KG Tübingen, Software-Engineer (permanent)
- Responsible for architecture, design, implementation and test for color image processing applications components on Microsoft Windows and Mac OS
- Algorithm design and implementation for color profile calculation; simulation of physical and optical dotgain; optimization of spot color simulation
- Responsible for third party sdk evaluation and integration
- Using Microsoft VisualStudio, C# and .net for GUI components, C++ and COM for image processing components, C for color measurement devices integration and Microsoft-SQL for database access layer
- Using mstest and google test unit test framework
- 2002-2004 Engineer (free-lance)
- Consulting and training for digital photography
- Image processing application for detecting correlations in image pairs using PowerPC AltiVec and Carbon libraries for MacOSX
- Cross platform lens distortion removal application using Qt library
- Panorama image creation application for spherical mirror devices using Qt and QuickTime for Windows
- 1997-2002 Nikon GmbH Düsseldorf, Consultant (contract)
- Consulting, training and technical support in applied digital photography
- 1997-1998 Renault Institute of Quality and Management, Cologne, Software-Developer (permanent)
- Quality assurance software development for car repair services using VisualBasic
- 1991-1993 Own desktop publishing studio in layout, type setting, graphical arts and photography
- 1990-1991 Cultural Journal „Halle anderS.“ Halle, Photographer and Graphical Artist, Chief Editor in Photography (permanent)
- 1990 Leipzig-Concert, advertising agency Leipzig, Photographer (permanent)
- 1989-1990 Photographic Studio Halle-Neustadt, Dienstleistungskombinat Halle, Photographer (permanent)

Publications and Presentations

- 2018 Karge, A./Rieger, I./Eberhardt, B./Schilling, A.: Using Chromaticity Error Minimisation for Fast Camera Spectral Responsivity Measurement. Proceedings of the 26th Color and Imaging Conference. Vancouver, Canada
- 2016 Karge, A. : Open Film Tools – a Free Toolset for a Spectral Data Based Movie Camera Color Characterization, 22nd Workshop Color Image Processing, Ilmenau, Germany
- 2016 Karge, A./Fröhlich, J./Eberhardt, B. : Open Film Tools – Spectral Based Color Correction Tools for Cinematographers. Stuttgart, Germany
- 2015 Karge, A./Fröhlich, J./Eberhardt, B.: A Spectral Database of Commonly Used Cine Lighting. Proceedings of the 23rd Color and Imaging Conference. Darmstadt, Germany
- 2015 Eberhardt, B./Fröhlich, J./Grandinetti, S./Karge, A.: The Future of Filmmaking: High Dynamic Range(HDR), Wide Color Gamut(WCG) and Calibrated Color Acquisition. FMX, Stuttgart, Germany

Further Training

2011	Qt basic and optional Training – e-GITS GmbH
2010	5 th European Conference on Color in Graphics, Imaging and Vision; 12 th International Symposium on Multispectral Color Science – Society for Image Science and Technology
2007	Object Oriented Testing – oose Informative Informatik GmbH
2006	Tornado Camp .NET Workshop – newtelligence AG
2006	OOP Design Patterns – oose Informative Informatik GmbH

Skills and Knowledge in Software Engineering

Methods:	Scrum based agile software development, OOD using UML, unit testing, continuous integration
Architecture:	Databased client-server applications, multithreading, cross platform development
Technology:	.net, COM, XML, Microsoft-SQL
Tools:	VisualStudio, MSTest and GoogleTest, TeamFoundationServer, Altova UModel, MATLAB, Mathematica, QtCreator, Xcode, MS Office, OpenOffice
Programming:	C#, C++, C; frameworks Ceres, Eigen, OpenCL, OpenGL, .net, ATL, STL, Qt, boost, pdflib
Operating Systems:	Windows, MacOS X, Linux

Languages

native:	German
foreign::	Fluently speaking and writing English, knowledge in Russian, basic knowledge in Spanish

Education

2002-2005	Master courses in media informatics at the University of Applied Sciences Cologne, Dpt. of Computer Science Degree: M.Sc. Media Informatics Thesis theme: „Design and Implementation of a Color Management Application for a LED-based Rear Projection Television System“ Main courses: digital audio, image and video signal processing, data visualizing, design and implementation of interactive medias and graphical user interfaces, project management
1993-2001	Study of imaging sciences and media technology at the University of Applied Sciences Cologne, Dpt. of Imaging Sciences and Media Technology Degree: Diplom-Ingenieur (FH) Imaging Sciences and Media Technology Thesis theme: „Active Triangulation Method for Occupant Sensing in Vehicles“ Main courses: geometrical and wave optics, colour metrology, digital image processing Additional lectures: C, C++, technical English, construction and design of optical systems
1991-1992	Study of physics at Martin-Luther-University Halle-Wittenberg

- 1989-1991 Evening classes at Volkshochschule Halle-Neustadt
Degree: General qualification for university entrance
- 1987-1989 Apprenticeship and certificate as a photographer at the photographic studio Halle-Neustadt,
Dienstleistungskombinat Halle
- 1977-1987 22./28. polytechnical school Halle-Neustadt

Internships

- 2004-2005 Carl Zeiss Jena GmbH, research center, life sciences and projection
Development of colorimetric measurement applications
- 2000-2001 Visteon Deutschland GmbH, technology center Cologne
Evaluation of optical and illumination components in an active triangulation system

Leisure Activities

Development of a Qt based cross platform panorama image application using C++, OpenGL and WebGL

Photographic studio and collaboration at Tübingen Society of Artists, photographic workshops and exhibitions

01-11-2018, Tübingen

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