Dr. Thomas Lindemeier

Curriculum Vitae

Experience

since May, 2018 — **Software Engineer**, *Daimler Protics GmbH.*
In-car augmented and virtual reality.

2012–2018 — **Research associate**, *University of Konstanz.*
Doctoral student and research associate at the work group *Visual Computing* of Prof. Deussen. Lead and assistance in various research projects and main researcher and developer of the e-David project. Advisor of Bachelor's and Master's thesis in the fields of Non-photorealistic rendering, computer graphics, computer vision and information visualization.

2009–2012 — **Student assistant**, *University of Konstanz.*
Computer Graphics and Media Informatics work group of Prof. Deussen and *Bioinformatics and Information Mining* work group of Prof. Berthold.

2007–2009 — **Intern and student employee**, *exorbyte GmbH*, Konstanz.
Development of backup and visualization tools.

Doctoral Thesis

title	*e-David: Non-Photorealistic Rendering using a Robot and Visual Feedback*
degree	Dr.rer.nat.
grade	Magna cum laude (1.0)
supervisors	Prof. Dr. Oliver Deussen and Prof. Dr. Marcel Waldvogel.
description	Subject of the thesis was to build a painting machine based on a robot and to implement associated algorithms to generate paintings and drawings using visual feedback optimization.

Education

2012–2018 — **Dr.rer.nat.**, *University of Konstanz.*
Visual Computing.

2010–2012 — **Master of Science**, *University of Konstanz.*
Visual Computing.

2005–2010 — **Bachelor of Science**, *University of Konstanz.*
Information Engineering.

Wörthstr. 15/1 – 89077 Ulm – Germany
+49 179 4671 804 • thomas.lindemeier@gmail.com

Languages

german	**First Language**
english	**Fluent**

Skills

Programming

C++	nine years	CMake	seven years
OpenCV	six years	OpenGL/GLSL	three years
ROS	two years	Qt	three years
processing	five years	Java	two years

Soft Skills

- Empathy, respect
- Mentoring, coaching
- Creativity, decision making
- Self-supervision
- Positivity, humor
- Friendliness, team player
- Public speaking
- Problem solving, Feedback

Other

- Computer vision
- Non-photorealistic rendering
- AR
- Machine learning, deep learning
- git, svn
- LaTeX
- Computer graphics
- Robotics
- VR
- Computational creativity
- Ubuntu Linux, Windows
- Writing and reviewing scientific articles

Interests

automatic painting	I am currently working on a new automatic painting system in my spare time that learns how to paint, using machine learning, especially (deep) reinforcement learning.
family	Spending time with my wife and son.
sports	Mountain biking, basketball.
computer games	Predominantly multiplayer games. Figuring out strategies with unknwon people to reach a common goal is challenging and fun.

Awards

2018	Honorable Mention at VMV 2018 for paper [4]
2017	Best Paper at Expressive 2017 for paper [8]
2017	4th place at the RobotArt Competition (https://robotart.org/2017-winners/)
2016	4th place at the RobotArt Competition (https://robotart.org/2016-winners/)
2013	Vimeo staff pick for the video *e-David Robot Painting* (https://vimeo.com/68859229)
2012	Best Paper, Runner Up at CAe 2012 for paper [3]
2011	VAST Grand Challenge - Outstanding Comprehensive Submission [1]

Wörthstr. 15/1 – 89077 Ulm – Germany
+49 179 4671 804 • thomas.lindemeier@gmail.com

Teaching

- Illustrative Computergraphics (lecture and exercise course)
- Global Illumination (lecture and exercise course)
- Modelling in Computer Graphics (lecture and exercise course)
- Virtual and Augmented Reality (exercise course)
- Current Trends in Computer Graphics (advisor)
- Research Paper Implementation - 2017, Institute of Animation, Filmakademie Ludwigsburg (lecture and exercise course)
- Research Paper Implementation - 2018, Institute of Animation, Filmakademie Ludwigsburg (lecture and exercise course)

Publications

[1] Bertini, E.; Buchmuller, J.; Fischer, F.; Huber, S.; Lindemeier, T.; Maass, F.; Mansmann, F.; Ramm, T.; Regenscheit, M.; Rohrdantz, C.; Scheible, C.; Schreck, T.; Sellien, S.; Stoffel, F.; Tautzenberger, M.; Zieker, M.; Keim, D. **Visual Analytics of Terrorist Activities Related to Epidemics**. *Visual Analytics Science and Technology (VAST)* (2011), 329–330.

[2] Deussen, O., and Lindemeier, T. **E-David: Wissenschaftlicher Versuch und malendes Monstrum**. In *Zufallszwänge - Roboterbilder zwischen Wissenschaft und Kunst - Catalogue of the exhibition in Konstanz*. University of Konstanz, Konstanz, 2013, pp. 39–45.

[3] Deussen, O., Lindemeier, T., Pirk, S., and Tautzenberger, M. **Feedback-guided Stroke Placement for a Painting Machine**. In *Proceedings of the Eighth Annual Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging* (Goslar Germany, Germany, 2012), CAe '12, Eurographics Association, pp. 25–33.

[4] Lindemeier, T., Gülzow, M. J., and Deussen, O. **Painterly Rendering using Limited Paint Color Palettes**. In *Vision, Modeling & Visualization* (2018).

[5] Lindemeier, T., Metzner, J., Pollak, L., and Deussen, O. **Hardware-Based Non-Photorealistic Rendering Using a Painting Robot**. *Computer Graphics Forum 34*, 2 (2015), 311–323.

[6] Lindemeier, T., Pirk, S., and Deussen, O. **Image Stylization with a Painting Machine using Semantic Hints**. *Computers & Graphics 37*, 5 (Aug. 2013), 293–301.

[7] Lindemeier, T., Spicker, M., and Deussen, O. **Artistic Composition for Painterly Rendering**. In *Vision, Modeling & Visualization* (2016), M. Hullin, M. Stamminger, and T. Weinkauf, Eds., The Eurographics Association.

[8] Spicker, M., Hahn, F., Lindemeier, T., Saupe, D., and Deussen, O. **Quantifying Visual Abstraction Quality for Stipple Drawings**. In *Proceedings of the Symposium on Non-Photorealistic Animation and Rendering* (New York, NY, USA, 2017), NPAR '17, ACM, pp. 8:1–8:10.

Wörthstr. 15/1 – 89077 Ulm – Germany
+49 179 4671 804 • thomas.lindemeier@gmail.com