
Dr. Shohei Mori

Position Postdoctoral Researcher (University Project Assistant),
Institute of Computer Graphics and Vision,
Graz University of Technology

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Education

- 2016 Doctor of Engineering, Graduate School of Information Science and Engineering, Ritsumeikan University, Japan (Supervision: Prof. Asako Kimura, Referee: Prof. Satoshi Tanaka, Referee: Prof. Haruo Noma)
- 2013 Master of Engineering, Graduate School of Information Science and Engineering, Ritsumeikan University, Japan (Supervision: Prof. Hideyuki Tamura)
- 2011 Bachelor of Science, College of Information Science and Engineering, Ritsumeikan University, Japan (Supervision: Prof. Hideyuki Tamura.)

Professional

Academic

- 10/2018–present **Postdoctoral Researcher (University Project Assistant)**, Institute of Computer Graphics and Vision, Graz University of Technology, Austria
- 08/2017–09/2018 **Guest Researcher**, Institute of Computer Graphics and Vision, Graz University of Technology, Austria
- 04/2016–09/2018 **Visiting Researcher (PD)**, Dept. of Information and Computer Science, Keio University, Japan
- 04/2013–09/2016 **Research Fellow (DC-1)**, Graduate School of Information Science and Engineering, Ritsumeikan University, Japan

Organization

- 07/2016–present **Support Member**, ISO/IEC JTC 1/SC 24/WG 9 (Augmented reality continuum concepts and reference model)
- 04/2015–present **Support Member**, TrakMark (Benchmark test schemes for AR/MR geometric registration and tracking methods)
- 04/2020–present **Academic Journal Committee**, The Virtual Reality Society of Japan
- 07/2016–03/2020 **Newsletter Committee**, The Virtual Reality Society of Japan
- 04/2016–03/2019 **Secretary**, Technical Committee on Plenoptic Time-Space Technology

Awards and Scholarships

- 2020 Best Paper Award at IEEE Workshop KELVAR
- 2016 Reading Group Competition Award at ICCVSS. For Reading Group 1
- 2015 Best Demo Award at IEEE ISMAR
- 2014, 2015 Best Presentation Award at KJMR
- 2011 Ritsumeikan University Saionji Graduate School Encouragement Scholarship (For the top graduate)
- 2008–2010 Ritsumeikan University Saionji Ikuei Scholarship (For the top three high achievers)
- 2009 Dean of College of Information Science and Engineering Education Award, Ritsumeikan University Parents Association of Student Education Assistance
- 2007, 2008 College of Information Science and Engineering Education Award, Ritsumeikan University Parents Association of Student Education Assistance

Service

- 2020 Science and Technology Program Committee (Europe), IEEE Int. Symp. on Mixed and Augmented Reality (ISMAR)
Doctoral Consortium Co-Chair, IEEE Int. Symp. on Mixed and Augmented Reality (ISMAR)
International Program Committee Member, Int. ACM Conf. on 3D Web Technology
- 2019 International Program Committee Member (Conference Papers), IEEE Virtual Reality (VR)
Web Co-Chair, IEEE Virtual Reality (VR)
- 2018 Demo Co-Chair, IEEE Int. Symposium on Augmented and Mixed Reality (ISMAR)
- 2017 International Program Committee Member, Int. Conf. on Artificial Reality and Telexistence & Eurographics Symposium on Virtual Environments (ICAT-EGVE)
General Chair, Highly Diverse Cameras and Displays for Mixed and Augmented Reality (HD4MAR)
Publication Co-Chair, Annual Conf. of the Virtual Reality Society of Japan
Local Arrangement Chair, Plenoptic Time-Space Technology Symposium
- 2016 Workshop Organizing Chair, Int. Workshop on Diminished Reality as Challenging Issue in Mixed and Augmented Reality (IWDR)

Invited Talks

- 1 **Augmented Visualization: Observing as Desire** Shohei Mori and Hideo Saito, Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (**APSIPA ASC**), 13/12/2017

- 2 **Augmented and Diminished Reality: Computational Imaging of Existence and Non-Existence** Shohei Mori, Int. Display Workshop (**IDW**), 8/12/2017

Tutorials

- 1 **Diminished Reality -History, New Definition, and Recent Progress-** Shohei Mori, Diminished Reality Tutorial in IEEE ISMAR 2014, 9/9/2014

Books

Chapters

- 1 Hideaki Uchiyama, Takafumi Taketomi, Sei Ikeda, and Shohei Mori. *Springer International Publishing*, Basics and Advances in Monocular vSLAM. Smart Sensors and Systems: Technology Advancement and Application Demonstrations, pp. 93–104 (2020)

Japanese Translation

- 2 Michael Beyeler (2017). *Packt Publishing*, Machine Learning for OpenCV: Intelligent Image Processing with Python. Translated by Sei Ikeda, Yuki Uranishi, Yuta Nakajima, Shohei Mori, Hirotake Yamazoe, and Goshiro Yamamoto, Machine Learning Programming Using OpenCV and Python (in Japanese), *Mynavi Publishing Corporation* (2018)
- 3 Dieter Schmalstieg and Tobias Höllerer (2016). *Addison Wesley*, Augmented Reality: Principles and Practice. Translated by Sei Ikeda, Ryosuke Ichikari, Mai Otsuki, Norihiko Kawai, Nobuchika Sakata, Takafumi Taketomi, Yuichiro Fujimoto, Shohei Mori, and Goshiro Yamamoto, Textbook of Augmented Reality (in Japanese), *Mynavi Publishing Corporation* (2018)

Peer Reviewed Publications - Last 5 Years

- 1 **InpaintFusion: Incremental RGB-D Inpainting for 3D Scenes** Shohei Mori, Okan Erat, Wolfgang Broll, Hideo Saito, Dieter Schmalstieg, and Denis Kalkofen IEEE Trans. on Visualisation and Computer Graphics (**TVCG**), Vol. 26, Issue 10, 2020
- 2 **Video-Annotated Augmented Reality Assembly Tutorials** Masahiro Yamaguchi, Shohei Mori, Peter Mohr, Markus Tatzgern, Ana Stanescu, Hideo Saito, and Denis Kalkofen Proc. ACM Symp. on User Interface Software and Technology (**UIST**), 2020 (to appear)
- 3 **Global-Map-Registered Local Visual Odometry Using On-the-Fly Pose Graph Updates** Masahiro Yamaguchi, Shohei Mori, Hideo Saito, Shoji Yachida, and Takashi Shibata Proc. Int. Conf. on Augmented Reality, Virtual Reality, and Computer Graphics (**SALENTO AVR**), 2020 (to appear)
- 4 **Visualization Techniques in Augmented Reality: A Taxonomy, Methods and Patterns** Stefanie Zollmann, Raphael Grasset, Tobias Langlotz, Wei Hong Lo, Shohei Mori, Holger Regenbrecht IEEE Transactions on Visualisation and Computer Graphics (**TVCG**), 2020

- 5 **Mixed Reality Light Fields for Interactive Remote Assistance** Peter Mohr, Shohei Mori, Tobias Langlotz, Bruce H. Thomas, Dieter Schmalstieg, and Denis Kalkofen, ACM Conference on Human Factors in Computing Systems (**CHI**), 2020
- 6 **Tools for Teaching Mining Students in Virtual Reality based on 360° Video Experiences** Denis Kalkofen, Shohei Mori, Tobias Ladinig, Lea Daling, Anas Abdelrazeq, Markus Ebner, Manuel Ortega, Susanne Feiel, Sebastian Gabl, Taras Shepel, James Tibbett, Teemu H. Laine, Michael Hitch, Carsten Drebenstedt, and Peter Mose, IEEE VR Workshop on K-12+ Embodied Learning through Virtual & Augmented Reality (**KELVAR**), 2020
- 6 **Image-based Center of Mass Estimation of the Human Body via 3D Shape and Kinematic Structure** Tomoya Kaichi, Shohei Mori, Hideo Saito, Kosuke Takahashi, Dan Mikami, Mariko Isogawa, and Yoshinori Kusachi, Sports Engineering, 2019
- 7 **Removing Fences from Sweep Motion Videos Using Global 3D Reconstruction and Fence-aware Light Field Rendering** Chanya Lueangwattana, Shohei Mori, and Hideo Saito, Computational Visual Media (**CVM**), 2018
- 8 **An Overview of Augmented Visualization: Observing the Real World as Desired** Shohei Mori and Hideo Saito, APSIPA Transactions on Signal and Information Processing (**ATSIP**), 2018
- 9 **Superimposing Thermal-Infrared Data on 3D Structure Reconstructed by RGB Visual Odometry** Masahiro Yamaguchi, Trong-Phuc Truong, Shohei Mori, Vincent Nozick, Hideo Saito, Shoji Yachida, and Hideaki Sato, IEICE Transactions on Information and Systems, 2018
- 10 **Perceived Weight of a Rod under Augmented and Diminished Reality Visual Effects** Satoshi Hashiguchi, Shohei Mori, Miho Tanaka, Fumihisa Shibata, and Asako Kimura, The ACM Symposium on Virtual Reality Software and Technology (**VRST'18**), 2018
- 11 **Diminishing Fence from Sweep Image Sequences Using Structure from Motion and Light Field Rendering** Chanya Lueangwattana, Shohei Mori, and Hideo Saito, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'18**), 2018
- 12 **BrightView: Increasing Perceived Brightness of Optical See-Through Head-Mounted Displays Through Unnoticeable Incident Light Reduction** Shohei Mori, Sei Ikeda, Alexander Plopski, and Christian Sandor IEEE Virtual Reality (**VR'18**), 2018
- 13 **A Refocus-Interface for Diminished Reality Work Area Visualization** Momoko Maezawa, Shohei Mori, and Hideo Saito, Stereoscopic Displays and Applications at IS&T Electronic Imaging Symposium (**SD&A'18**), 2018
- 14 **Multi-view Surface Inspection Using a Rotating Table** Tomoya Kaichi, Shohei Mori, Hideo Saito, Junichi Sugano, and Hideyuki Adachi, Intelligent Robotics and Industrial Applications Using Computer Vision at IS&T Electronic Imaging (**IRIACV'18**), 2018

- 15 **3D PixMix: Image Inpainting in 3D Environment** Shohei Mori, Jan Herling, Wolfgang Broll, Norihiko Kawai, Hideo Saito, Dieter Schmalstieg, and Denis Kalkofen, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'18**), 2018
- 16 **Estimation of Center of Mass for Sports Scene Using Weighted Visual Hull** Tomoya Kaichi, Shohei Mori, Hideo Saito, Kosuke Takahashi, Dan Mikami, Mariko Isogawa, and Hideaki Kimata, IEEE Conference on Computer Vision and Pattern Recognition Workshops (**CVPRW**), 2018
- 17 **A Work Area Visualization by Multi-view Camera-based Diminished Reality** Shohei Mori, Momoko Maezawa, and Hideo Saito, MDPI Transactions on Multimodal Technologies and Interaction, 2017
- 18 **A Survey of Diminished Reality: Techniques for Visually Concealing, Eliminating, and Seeing Through Real Objects** Shohei Mori, Sei Ikeda, and Hideo Saito, IPSJ Trans. on Computer Vision and Applications (**CVA**), 2017
- 19 **Reference Framework on vSRT-method Benchmarking for MAR** Ryosuke Ichikari, Takeshi Kurata, Koji Makita, Takefumi Taketomi, Hideaki Uchiyama, Tomotsugu Kondo, Shohei Mori, and Fumihisa Shibata, International Conference on Artificial Reality and Telexistence & Eurographics Symposium on Virtual Environments (**ICAT-EGVE'17**), 2017
- 20 **Registration of RGB and Thermal Point Clouds Generated by Structure From Motion** Trong Phuc Truong, Masahiro Yamaguchi, Shohei Mori, Vincent Nozick, and Hideo Saito, IEEE International Conference on Computer Vision Workshops (**ICCVW**), 2017
- 21 **Semantic Object Selection and Detection for Diminished Reality based on SLAM with Viewpoint Class** Yoshikatsu Nakajima, Shohei Mori, and Hideo Saito, IEEE International Symposium on Mixed and Augmented Reality (**ISMAR-Adjunct**), 2017
- 22 **An Instant See-Through Vision System Using a Wide Field-of-View Camera and a 3D-Lidar** Kei Oishi, Shohei Mori, and Hideo Saito, IEEE International Symposium on Mixed and Augmented Reality (**ISMAR-Adjunct**), 2017
- 23 **A Multi-view Camera-based Diminished Reality for Work Area Visualization** Momoko Maezawa, Shohei Mori, and Hideo Saito, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'17**), 2017
- 24 **Influence on Weight Sensation Caused by Visual Diminishing of Real Objects** Miho Tanaka, Ayushi Misra, Kana Oshima, Satoshi Hashiguchi, Shohei Mori, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'17**), 2017
- 25 **Empowering a POB-Diminished Reality Method to Handle Rigid Moving Objects with Real-time Observation** Masaru Horita, Daiki Sakauchi, Shohei Mori, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Asia Pacific Workshop on Mixed and Augmented Reality (**APMAR'17**), 2017

- 26 **BrightView: Increasing Perceived Brightness in Optical See-through Head-mounted Displays** Shohei Mori, Sei Ikeda, Christian Sandor, and Alexander Plopski, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017
- 27 **Further Experiments and Considerations on Weight Perception Caused by Visual Diminishing of Real Objects** Miho Tanaka, Ayushi Misra, Kana Oshima, Satoshi Hashiguchi, Shohei Mori, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017
- 28 **Background Image Registration as a Post-processing Technique in Diminished Reality Rendering Procedures** Shohei Mori, Jianing Qie, Sei Ikeda, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017
- 29 **Design and Implementation of a Common Dataset for Comparison and Evaluation of Diminished Reality Methods** Taiki Morozumi, Shohei Mori, Sei Ikeda, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Poster at IEEE International Symposium on Mixed and Augmented Reality (**ISMAR'17**), 2017
- 30 **Diminished hand: A Diminished Reality-based Work Area Visualization** Shohei Mori, Momoko Maezawa, Naoto Ienaga, and Hideo Saito, Demo at IEEE Virtual Reality (**VR'17**), 2017
- 31 **Design and Construction of Data Acquisition Facilities for Diminished Reality Research** Shohei Mori, Yuya Eguchi, Sei Ikeda, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, ITE Transactions on Media Technology and Application (**MTA**), 2016
- 32 **Detour Light Field Rendering for Diminished Reality using Unstructured Multiple Views** Shohei Mori, Momoko Maezawa, Naoto Ienaga, and Hideo Saito, International Workshop on Diminished Reality as Challenging Issue in Mixed and Augmented Reality (IWDR), 2016
- 33 **First Deployment of Diminished Reality for Anatomy Education** Naoto Ienaga, Felix Bork, Siim Meerits, Shohei Mori, Pascal Fallavolita, Nassir Navab, and Hideo Saito, International Workshop on Diminished Reality as Challenging Issue in Mixed and Augmented Reality (IWDR), 2016
- 34 **Considerations on Binocular Mismatching in Observation-Based Diminished Reality** Hitomi Matsuki, Shohei Mori, Sei Ikeda, Fumihisa Shibata, Asako Kimura, and Hideyuki Tamura, Poster at IEEE International Symposium on 3D User Interfaces (**3DUI'16**), 2016