Hisanari Otsu

Personal Data

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Web: http://lightmetrica.org/h-otsu/

Research Interests

Computer Graphics: Physically Based Rendering, Light Transport Simulation

Education

Apr 2015 - Mar 2018	Ph.D. in Information Science and Technology Graduate School of Information Science and Technology **The University of Tokyo**, Japan Advisor: Prof. Toshiya Hachisuka Thesis: Bridging Different Spaces in Light Transport Simulations
Apr 2013 - Mar 2015	Master of Information Science and Technology Graduate School of Information Science and Technology **The University of Tokyo**, Japan Advisor: Prof. Reiji Suda Thesis: Optimized Path Sampling Strategy Selection for Trans-Dimensional Mutation in Metropolis Light Transport
Apr 2009 - Mar 2013	Bachelor of Science School of Science **The University of Tokyo**, Japan Advisor: Prof. Tomoyuki Nishita Thesis: A Study on Global Illumination Computation Using Replica Exchange Light Transport in Locality-Relaxed Light Path Space

Publications

[1] **Hisanari Otsu**, Johannes Hanika, and Carsten Dachsbacher. Portal-Based Path Perturbation for Metropolis Light Transport. In *Vision, Modeling, and Visualization*. The Eurographics Association, 2020.

[2] **Hisanari Otsu**, Johannes Hanika, Toshiya Hachisuka, and Carsten Dachsbacher. Geometry-aware metropolis light transport. *ACM Transactions on Graphics (Proc. of SIGGRAPH Asia)*, 37(6):278:1–278:11, 2018.

[3] **Hisanari Otsu**, Yamamoto Masafumi, and Toshiya Hachisuka. Reproducing spectral reflectances from tristimulus colours. *Computer Graphics Forum*, 37(6):370–381, 2018.

[4] **Hisanari Otsu**, Shinichi Kinuwaki, and Toshiya Hachisuka. Supervised learning of how to blend light transport simulations. In *Monte Carlo and Quasi-Monte Carlo Methods (MCQMC 2016)*, pages 409–427, 2018.

[5] **Hisanari Otsu**, Anton Kaplanyan, Johannes Hanika, Carsten Dachsbacher, and Toshiya Hachisuka. Fusing state spaces for Markov chain Monte Carlo rendering. *ACM Transactions on Graphics (Proc. SIGGRAPH)*, 36(4):74:1–74:10, 2017.

[6] Martin Šik, **Hisanari Otsu**, Toshiya Hachisuka, and Jaroslav Křivánek. Robust light transport simulation via Metropolised bidirectional estimators. *ACM Transactions on Graphics (Proc. SIGGRAPH Asia)*, 35(6):245:1–245:12, 2016.

[7] **Hisanari Otsu**, Yonghao Yue, Qiming Hou, Kei Iwasaki, Yoshinori Dobashi, and Tomoyuki Nishita. Replica exchange light transport on relaxed distributions. *ACM SIGGRAPH 2013 Posters*, 2013.

Work Experience

Sep 2022 -	Postdoctoral Researcher at McGill University, Montreal, Canada
Apr 2018 - Mar 2022	Postdoctoral Researcher at Karlsruhe Institute of Technology, Karlsruhe, Germany
Oct 2017 - Mar 2018	Visiting Research Scientist at Karlsruhe Institute of Technology, Karlsruhe, Germany

Academic Services

Reviewer Experience

- SIGGRAPH (2020,2021)
- SIGGRAPH Asia (2015,2020)
- Eurographics (2020)
- Eurographics Symposium on Rendering (2015,2019)
- Computer Graphics Forum (2022)
- Pacific Graphics (2020)
- Computer Graphics International (2017)
- The Visual Computer (2017)
- Computers & Graphics (2021)
- Graphics Interface (2021)

Awards

2016	Super Creator Information-technology Promotion Agency (IPA), Japan
2013	Dean's Award Department of Information Science, The University of Tokyo

Languages

Japanese:	Native
English:	Professional working proficiency
German:	Beginner

Personal Projects

2014 - *Present*	Lightmetrica A modern, research-oriented renderer http://lightmetrica.org/
2012	Freestroke 3D Painting Tool https://github.com/hi2p-perim/freestroke
2018	minpt A path tracer in 300 lines of C++ https://github.com/hi2p-perim/minpt

Updated: October 6, 2022