# **Daniel Meister**





### **Education**

The Czech Technical University in Prague	Prague, Czech Republic
Ph.D. in Information Science and Computer Engineering	2014 - 2018
M.Sc. in Computer Graphics and Interaction	2012 - 2014
B.Sc. in Software Engineering	2009 – 2012

# **Work Experience**

2023/7 - Present
2021/9 - 2023/6
2019/9 - 2021/8
2017/11 - 2019/8
2014/10 - 2017/3

# **Computer Skills**

C/C++, CUDA, HIP, OpenCL, OpenGL, OptiX, Embree, Matlab, Python, PyTorch, Bash, Git, CMake, LATEX

### **Research Interests**

Data Structures for Ray Tracing, Real-Time Ray Tracing, GPGPU, Parallel Computing, Global Illumination, Machine Learning for Rendering

# Languages

Czech (native language), English (fluent), Japanese (pre-advanced - JLPT N2), French (basic knowledge) and Spanish (basic knowledge)

### **Professional Visits Abroad**

Vienna University of Technology, Austria (1 month)	2014
Teaching	

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CTU Algorithms of Computer Graphics (English)	2018
CTU Algorithms of Computer Graphics (Czech)	2015

### **Awards**

JSPS Postdoctoral Fellowship (standard)	2019
Finalist of Antonín Svoboda Award for the Best Ph.D. Thesis	2019
Dean's Award (Outstanding Dissertation, Doctoral course)	2019

# **Professional Society Membership**

Upsilon Pi Epsilon Honor Society

### Reviewer

Eurographics, Eurographics Symposium on Rendering, Pacific Graphics, Computer Graphics Forum, High-Performance Graphics, Journal of Computer Graphics Techniques, Graphical Models, IEEE Computer Graphics and Applications

### **Publications**

- Daniel Meister and Jiří Bittner. Performance Comparison of Bounding Volume Hierarchies for GPU Ray Tracing. *Journal of Computer Graphics Techniques (JCGT)*, 2022
- Daniel Meister and Toshiya Hachisuka. Lightweight Multidimensional Adaptive Sampling for GPU Ray Tracing. *Journal of Computer Graphics Techniques (JCGT)*, 11(3):46–64, 2022
- Sabyasachi Mukherjee, Sayan Mukherjee, Binh-Son Hua, Nobuyuki Umetani, and Daniel Meister. Neural Sequence Transformation. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 2021
- Daniel Meister, Adam Pospíšil, Imari Sato, and Jiří Bittner. Spatio-Temporal BRDF: Modeling and Synthesis. *Computers and Graphics*, 97:279–291, 2021
- Daniel Meister, Shinji Ogaki, Carsten Benthin, Michael J. Doyle, Michael Guthe, and Jiří Bittner. A Survey on Bounding Volume Hierarchies for Ray Tracing. *Computer Graphics Forum (Proceedings of Eurographics)*, 40(2), 2021
- Daniel Meister, Jakub Bokšanský, Michael Guthe, and Jiří Bittner. On Ray Reordering Techniques for Faster GPU Ray Tracing. In *Proceedings of Symposium on Interactive 3D Graphics and Games*, 2020
- Jakub Hendrich, Adam Pospíšil, Daniel Meister, and Jiří Bittner. Ray Classification for Accelerated BVH Traversal. *Computer Graphics Forum (Proceedings of EGSR)*, 38(4):49–56, 2019
- Daniel Meister and Jiří Bittner. Parallel Reinsertion for Bounding Volume Hierarchy Optimization. *Computer Graphics Forum (Proceedings of Eurographics)*, 37(2):463–473, 2018
- Daniel Meister and Jiří Bittner. Parallel Locally-Ordered Clustering for Bounding Volume Hierarchy Construction. *IEEE Transactions on Visualization and Computer Graphics*, 24(3):1345–1353, 2018
- Jakub Hendrich, Daniel Meister, and Jiří Bittner. Parallel BVH Construction Using Progressive Hierarchical Refinement. *Computer Graphics Forum (Proceedings of Eurographics*), 36(2):487–494, 2017
- Daniel Meister and Jiří Bittner. Parallel BVH Construction Using *k*-means Clustering. *Visual Computer* (*Proceedings of Computer Graphics International*), 32(6-8):977–987, 2016
- Jiří Bittner and Daniel Meister. T-SAH: Animation Optimized Bounding Volume Hierarchies. *Computer Graphics Forum (Proceedings of Eurographics)*, 34(2):527–536, 2015

# **Invited Talks**

Bounding Volume Hierarchies for Ray Tracing, Huawei Tokyo Research Center

5/2020