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Finding the Right Representations for Generative Modeling of 3D Shapes

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Host: 陈宝权 教授

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Abstract

Data driven approaches have been widely used in graphics for capturing and creating 3D contents. Instead of modeling the underline physical process, data driven methods exploit the intrinsic properties learned from the data to generate high quality results with less computational cost or capturing workload. In this talk, I will first introduce our research efforts on how to leverage the priors devised from the 3D real world for modeling appearance and light transport from sparse samples. Then I will describe our recent work on how to efficiently infer the 3D shape and appearance from dense datasets. Finally, I will discuss the challenges and possible research opportunities in data driven graphics.

Biography

Dr. Xin Tong (童欣) is now a principal researcher in Internet Graphics Group of Microsoft Research Asia . Dr. Tong obtained his Ph.D. degree in Computer Graphics from Tsinghua University in 1999. His Ph.D. thesis is about hardware assisted volume rendering. He got his B.S. Degree and Master Degree in Computer Science from Zhejiang University in 1993 and 1996 respectively.

Dr. Tong's research interests include appearance modeling and rendering, texture synthesis, and image based modeling and rendering. Specifically, his research concentrates on studying the underline principles of material light interaction and light transport, and developing efficient methods for appearance modeling and rendering. He is also interested in performance capturing and facial animation.