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Title: Glass reflection removal of 360° images and 3D point clouds

Abstract:

We often capture images and 3D point clouds of real-world scenes through glass. The captured data may include undesired reflection artifacts since light passes through and is reflected on a pane of glass simultaneously. Such reflection artifacts may degrade the performance of image processing and computer vision techniques. In this lecture, I will talk about our research work on automatic reflection removal for images and 3D point clouds. I will first introduce the reflection removal problem of images and propose a reflection removal algorithm for 360° images. Next, I will define the reflection artifacts in large-scale 3D point clouds (LS3DPCs) captured by LiDAR scanners, and propose the reflection removal algorithm for LS3DPCs.

Biography:



Jae-Young Sim received the B.S. degree in electrical engineering and the M.S. and Ph.D. degrees in electrical engineering and computer science from Seoul National University, Seoul, South Korea, in 1999, 2001, and 2005, respectively. From 2005 to 2009, he was a Research Staff Member with the Samsung Advanced Institute of Technology, Samsung Electronics Company, Ltd. In 2009, he joined the School of Electrical and Computer Engineering, Ulsan

National Institute of Science and Technology (UNIST), Ulsan, South Korea, where he is now a Professor in Graduate School of Artificial Intelligence and Department of Electrical Engineering. He is also serving as Dean of the College of Information and Biotechnology and Head of the Graduate School of Artificial Intelligence. From 2020 to 2021, he was a visiting researcher at University of California San Diego, USA, and he was an APSIPA Distinguished Lecturer for the term 2021-2022. His research interests include image processing, computer vision, and machine learning. He published over 80 papers of international journals and conferences. He is an associate editor of Journal of Visual Communications and Image Representation.