THE CHINESE UNIVERSITY OF HONG KONG
Department of Electronic Engineering
Seminar

Linking 3D Reconstruction and 3D Generation

Mr. Stan Szymanowicz (PhD student)

(Visual Geometry Group) Department of Engineering Science
University of Oxford

Date: 15 Sept 2023 (Friday)
Time: 2:00 p.m.
Place: Rm 513, William M W Mong Engineering Building, CUHK

Abstract

3D Reconstruction -- recovery of the 3D structure of the world from 2D observations -- is a fundamental task that has applications across Computer Vision, Computer Graphics and Robotics. Photorealistic 3D reconstruction has seen remarkable progress since the popularisation of Neural Radiance Fields, however, it still critically relies on challenging assumptions of capturing many photos per scene and precise knowledge of the associated camera poses. This talk will cover recent progress in relaxing these assumptions by leveraging the progress in Diffusion Models, Multi-View Neural Reconstruction and Synthetic Data. Finally, in the end, there is a brief introduction to how one can controllably animate the reconstructed objects in real time.

Biography

Stan Szymanowicz is a PhD student at the Visual Geometry Group at the University of Oxford working with Andrea Vedaldi and Christian Rupprecht. His research interests span 3D Computer Vision, Computer Graphics, Machine Learning and Robotics. Previously, he spent a year as a Research Intern at Microsoft Mixed Reality Labs in Cambridge. He holds an MEng with Distinction and the IET `Student of the Year' Award from the University of Cambridge where he worked under the supervision of Roberto Cipolla.

***** ALL ARE WELCOME *****

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