Exploring the Frontier: Deep Reinforcement Learning for Adaptive Monte Carlo Light Field Sampling and Reconstruction

Authors: Huo Yuchi

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Abstract

When employing Monte Carlo algorithms for global illumination rendering, insufficient sample points generated by path tracing lead to rendered results containing substantial noise, which severely compromises their usability. One solution is to guide the process of Monte Carlo sample generation via path tracing during sampling, thereby improving the quality of the final rendering results; this constitutes an optimization scheme for the sampling process. This paper investigates and synthesizes cutting-edge advances in the domain of Monte Carlo adaptive light field sampling and reconstruction using deep reinforcement learning.

Full Text

Figures

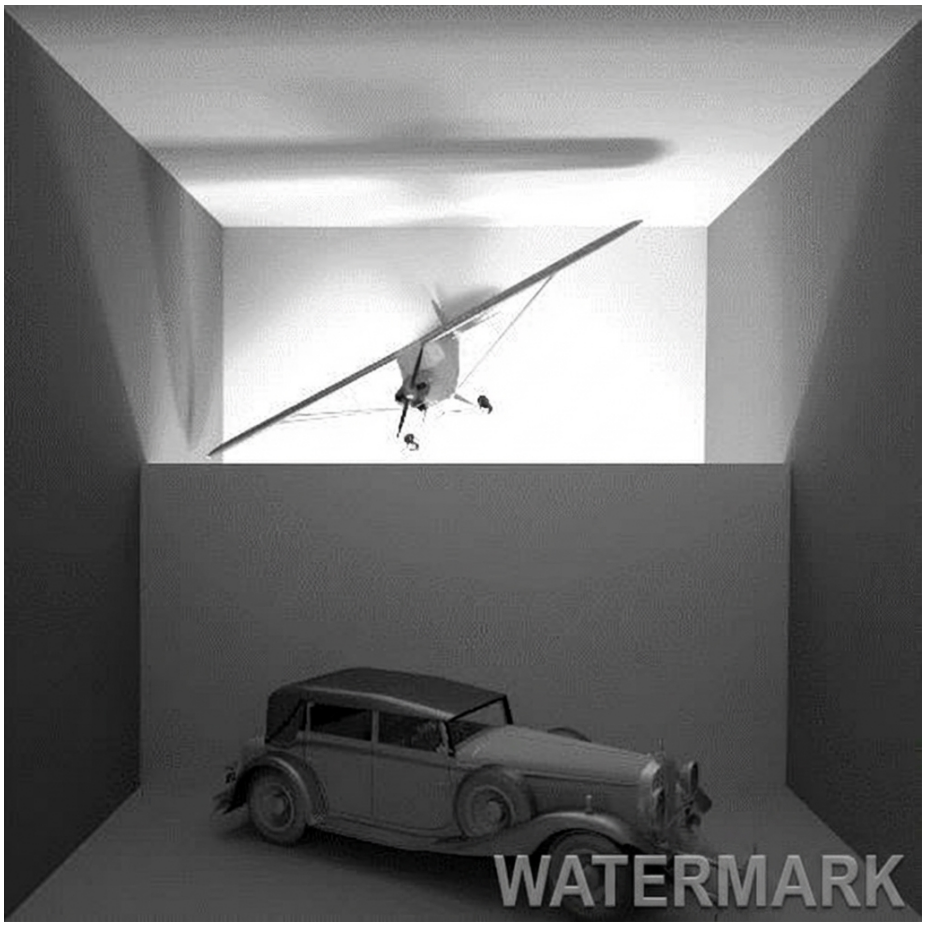

Figure 1: Figure 1

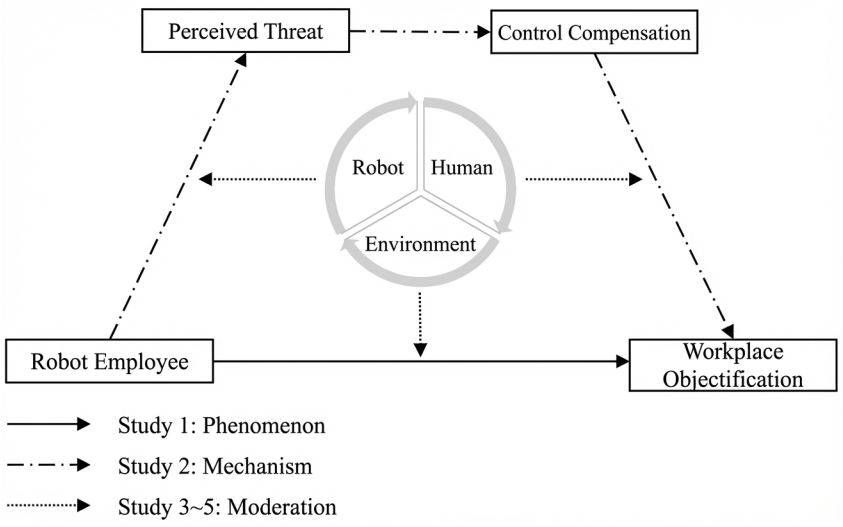

Figure 2: Figure 2

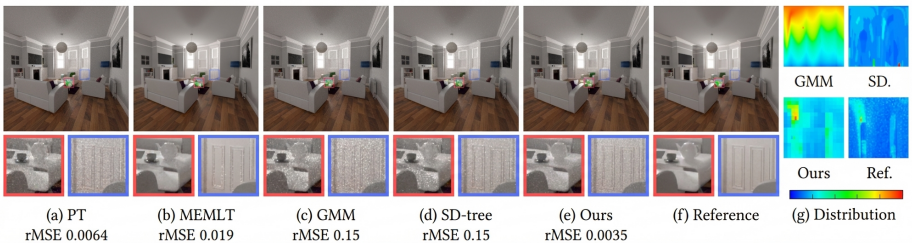

Figure 3: Figure 4