Jacob Leboeuf
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Dr. Haim Levkowitz
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Summary

This article discusses the usage of shader lamp systems to assist in producing effective and detailed projection mapping of three-dimensional objects. Such mapping can of course be used to display such objects in its potential future environment, and is frequently used by the art community. The authors look to improve the way the objects are tracked, with a strategy able to help maximize the efficiency of the camera-projector system, and do so while still being easily implemented on the GPU, and being collaborative with other tracking systems. They were able to develop an optical flow-based pose estimation algorithm through linear optimization (regardless if ambient illumination was used) that tracks moving objects on various kinds of textures. They hope to combine this distortion-based estimation model with other models that track motion in the future to provide even more efficient ways to track object motion through shaders.