

## Abstract

Conventional video tracking operates over RGB or grey-level data which contain significant clues for the identification of the targets. While this is often desirable in a video surveillance context, use of video tracking in privacy-sensitive environments such as hospitals and care facilities is often perceived as intrusive. Therefore, in this work we present a tracker that provides effective target tracking based solely on depth data. The proposed tracker is an extension of the popular Struck algorithm which leverages a structural SVM framework for tracking. The main contributions of this work are novel depth features based on local depth patterns and a heuristic for effectively handling occlusions. Experimental results over the challenging Princeton Tracking Benchmark (PTB) dataset report a remarkable accuracy compared to the original Struck tracker and other state-of-the-art trackers using depth and RGB data.