

Abstract

Yasser El Sonbaty

VHDL-Based Simulation of a Parallel Implementation of a Phase-Based Algorithm for Optical Flow

the computation of optical flow can be an important part in a diverse number of applications. however, optical flow algorithms can be categorized as either very accurate/slow/very fast/highly inaccurate. none of the optical flow algorithms combined both accuracy/efficiency. among these algorithms was the phase-based fleetjepson algorithm. although this algorithm has proved to produce relatively accurate results, it can not be exploited in many real-life applications due to its relatively long run-time. the goal of this paper is to combine the accuracy of the phase-based optical flow algorithm by fleetjepson/exploit the parallelism/high performance capabilities of the fpgas to provide an accurate/efficient optical flow algorithm for fpga-based applications.