Detecting Motion Pattern in Optical Flow Fields

We can compute the local speed gradient to detect certain basic motion patterns. The speed gradient is defined as the direction of the steepest speed increase, regardless of the direction of motion.

There are four different basic motion patterns: counterclockwise and clockwise rotation, contraction, and expansion. They can be combined to form spiral motion.

Idea: A consistent angle between the direction of movement and the orientation of the speed gradient indicates a specific motion pattern.

Angles other than 0, 90, 180, and 270 degrees correspond to spiral motion patterns.

And this is...

The End