

Wide-Baseline Fisheye Stereo at Crossroads

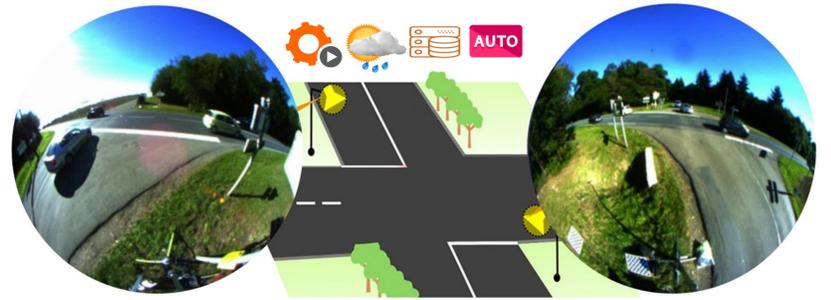


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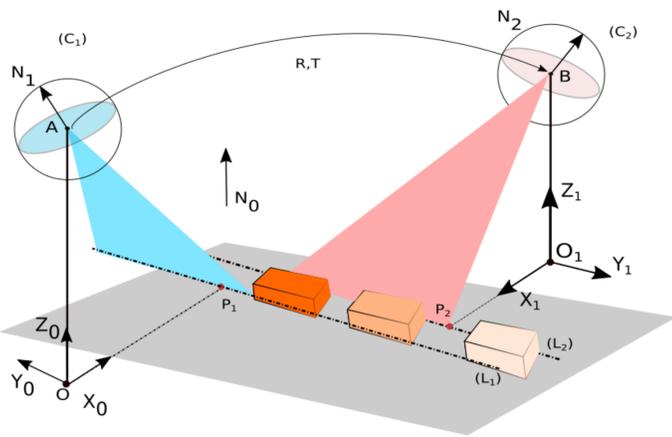


Context and Motivations

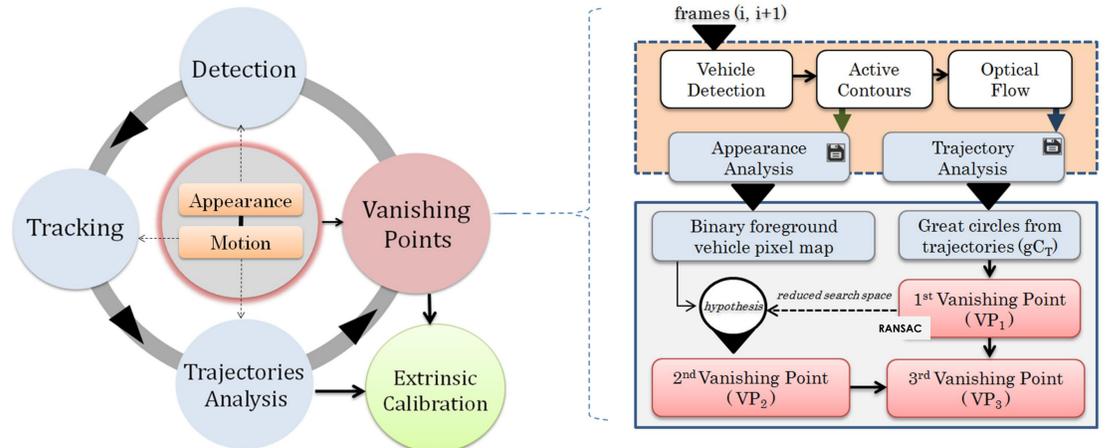
We present a wide-baseline fisheye-stereo for rural intersection monitoring. We propose a method for automatic extrinsic calibration (estimation of the rotation and translation at scale between the cameras). Our approach uses vehicles as dynamic calibration objects. We perform a joint analysis of motion and appearance cues to compute vehicle trajectories and speeds.



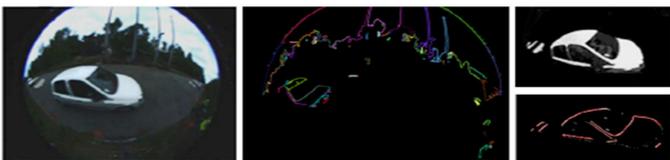
Problem Modeling



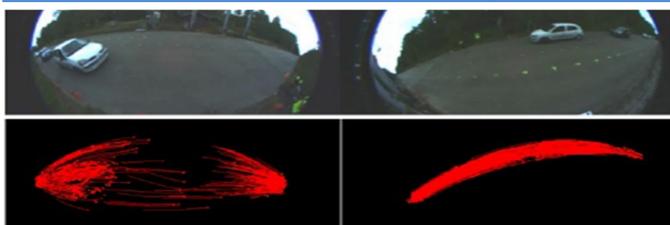
Proposed Solution



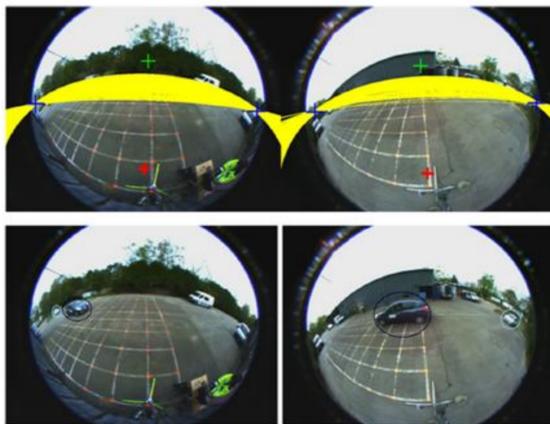
Vehicle Detection



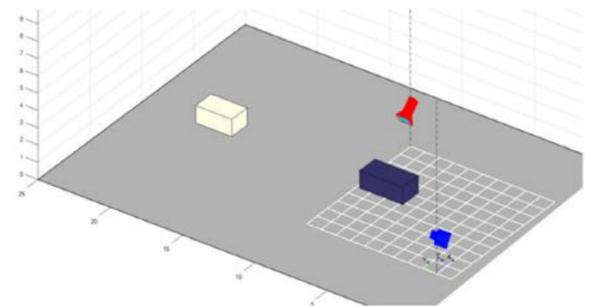
Vehicle Tracking



Vanishing Points - Extrinsic Calibration (lab experiments)



3D localization of Vehicles



Trajectory and Speed Estimation (rural intersection dataset)

