Real-time Stereo Vision for Urban Traffic Scene Understanding

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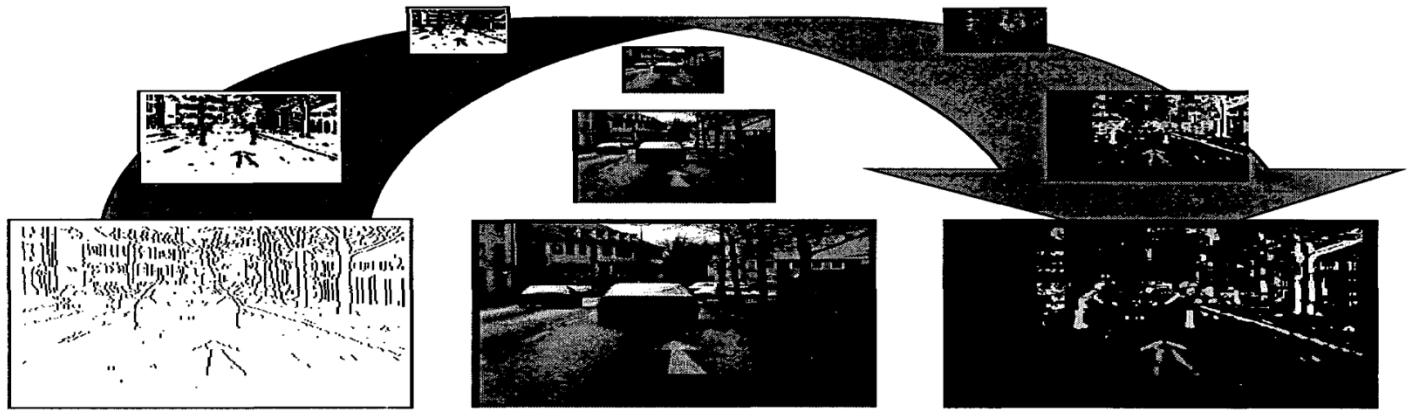

Fig. 3 left: binary pyramid, middle: Gaussian pyramid for left image, right: correlation pyramid

- Presents a precise correlation-based stereo vision approach that allows real-time interpretation of traflc scenes and autonomous Stop & Go on a standard PC
- The high speed is achieved by means of a multi-resolution analysis
- It delivers the stereo disparities with sub-pixel accuracy and allows precise distance estimates

- Develops two different stereo approaches:
  - Real-Time Stereo Analysis based on Local Features
  - Real-Time Stereo Analysis based on Correlation

- Shows applications of stereo approaches to obstacle detection and tracking and analysis of free space in front of the car
- Evaluates on self-recorded dataset