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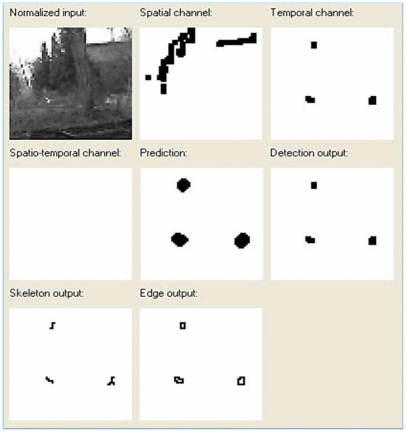
Multitarget Tracking Library

Bio-inspired high-speed visual multitarget tracking opens new horizons for image processing

AnaLogic Computers' unique Multitarget Tracking Library (a key component of the InstantVision Integrated Software Environment) enables smart cameras and other vision systems to track multiple targets moving at high speeds with pinpoint accuracy, even in environments containing a great deal of other visual activity. Developed in part with support from different U.S. government agencies, the MTT Lib is now available on the commercial market.



Apart from its numerous applications in the established industrial machine vision and security/surveillance sectors, the MTT Lib combined with the Signal and Image Processing and Signal and Image Flow Processing InstantVision libraries flattens the learning curve of image processing solutions, thereby opening new markets where advanced vision technology has not yet penetrated: sports and entertainment, traffic management, science and medicine, and almost any area requiring the tracking and analysis of many fast-moving objects.

Optimized for use on AnaLogic's award-winning Bi-i family of ultra-fast smart cameras and InstantVision Integrated Software Environment, the MTT Lib can also be ported to other platforms and vision systems. Like all of AnaLogic's products, the MTT Lib is based on its proprietary Cellular Visual Technology (CVT) in which unique hardware and software solutions mimicking human vision are augmented with the most advanced computing technology.

While running on the Bi-i, the MTT Lib has been clocked tracking 6 objects at over 300 frames per second, significantly exceeding standard video frame rates. It can track much larger numbers of targets with speeds determined by the power of the system used to run it and the complexity of the task.

MTT Lib can also support tracking various objects captured with subpixel resolution. In many instances, the objects to be tracked have no known distinguishing features that would allow feature (or token) tracking optical flow or motion estimation. Therefore, the targets can only be identified and tracked by their measured positions and derived motion parameters.

The small memory footprint of the library's algorithms are ideal for use in resource constrained environments, like smart surveillance cameras and other embedded devices.