

“Watch out for upcoming aliens

Dear Reader,

one of the most exciting talks at our Automated Driving Symposium was the keynote delivered by Professor Shai Shalev-Shwartz (Mobileye) addressing the requirements placed on automated vehicles and their limitations. Apart from the impressive rundown of the current status, he listed five items as being strategically important. One of them was the strategy that map data could serve to provide a focus that is especially aligned longitudinally to the vehicle and also deliberately considers all potentially relevant intersecting trajectories of objects.

A clever tactic that is also used in industrial image processing by defining an Area of Interest (AoI). The observation of the smallest possible optical buffer window with a specific illumination of test objects to optimize the performance of detection and information processing mechanisms seems a suitable comparison to me. In industry, such measures have a significant impact on throughput of good/bad checks or detection of relevant characteristics.

The separation of relevant from irrelevant data to accelerate processing speed is also obviously of crucial importance for highly automated vehicles and their sensor packages so as to not continuously hit the limits of current compute capability. This not only affects pure data processing performance but also software and in particular the alignment of data from different sensors that monitor the same area with different physical principles in order to balance out the respective disadvantages. This process must be completed quickly.

However, the fact that this also has a downside in the dynamic world of road

traffic was aptly put by another speaker when, in order to provoke a discussion, he augmented the image of a road scene with an airplane carrying out an emergency landing: If the vehicle only focusses on the AoI, it will not recognize the plane as it cannot see things “out of the corner of its eye”. This demonstrates that the edge cases cannot be solved with just a single strategy, but also, that the path to the capabilities of the ‘human universal system’ is still far. That is kind of meant by my wife’s byword that she quotes when ‘for a reason’ exceptionally slowing down velocity: A human subconsciously processes a lot of peripheral information in parallel to the main task – assuming he or she doesn’t mess things up being mere human. Let’s see how the machine can arrive at the same or even better result for the unknown unknowns using its set of information sources.

Enjoy reading this edition.



Robert Unseld
Responsible Editor



DRIVE. EFFICIENCY. POWER.

The automotive industry is facing new challenges – the turnaround in mobility requires consistent rethinking and technology-neutral development. As a leading international technical and scientific magazine for decision-makers working in drive development and production, MTZworldwide sees itself as an information platform on future drive systems – electric and internal-combustion-engine-based. MTZworldwide promotes the exchange of information between manufacturers, suppliers, service providers, and R&D centers worldwide. Take advantage of the **interactive e-magazine** and benefit from the **extensive information in our unique online archive**, which gives you the option of **downloading PDF files**.

MTZ



www.mtz-magazine.com