Lane Following Software

The Tullamarine Freeway (airport for Melbourne) is demonstrating an interesting aspect of road user plasticity.

The road is being widened (on the left), so the lanes have been squeezed to the right. Where work is being conducted, signs indicate that drivers should stay between the yellow lines, otherwise they should respect the white lines. Obvious inferences apply – where a yellow line overwrites a white line, it becomes an honorary white line. If you can read a sign and update your processing methods in a few seconds, this is pretty easy. What if you can't? If you can't what – read a sign, or update your processing methods in a few seconds? Or both?

The solution of staying between lines that are at least the width of the vehicle is one, but it biases towards collision with the vehicle on the left, which may be centred between the yellow lines (and may be an airport bus, which pretty much fills the reduced-width lane).

The ability to allow a textual interface to modify line recognition based on colour and inference is typical of a general purpose processor (a processor which handles vision, reading, signal processing all in one - a person) within a context (a yellow line means something else somewhere else).

This is a good example of just how powerful, and yet unobtrusive, the unconscious mind is.

The average person has no understanding of how their lane following software works, where it is located, or how to patch it to suit changing circumstances – yet everybody can do it when a sign says so.

We need to replicate the power and the unobtrusiveness in a machine.