

MEDIA RELEASE
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NICTA and SEEING MACHINES TO TACKLE DROWSY DRIVERS

Australia's ICT Centre of Excellence, National ICT Australia (NICTA) and Seeing Machines Limited, a global leader in computer vision technology, have signed a one year research collaboration agreement to explore the use of information and communications technologies (ICT) to reduce road accidents relating to driver fatigue.

The collaborative research relationship will develop ICT solutions which will detect the subtle shifts in muscular control and response during the onset of fatigue when driving; the phenomenon which leads to the well known "micro-nod".

Driver fatigue is a major cause of road accidents and fatalities around the world. Some estimates from OECD suggest that fatigue and lack of sleep is the cause of up to 25% of road fatalities and the number one cause of heavy truck crashes in OECD countries.

Seeing Machines has developed an automotive and transport safety system known as the Driver State Sensor (DSS) which is designed to monitor drivers for signs of fatigue, distraction and inattention.

Presently, the DSS can monitor fatigue by observing the driver's eyelids. However sometimes when the eyelids are obscured by glasses or sunglasses, the measurements cannot be made.

Fortunately the DSS system has the unique ability to not only observe eyelids, but also 3D head-position and orientation. NICTA and Seeing Machines intend to combine their research expertise to examine driver head movements in response to car-motion in order to develop an additional metric for driver fatigue that does not rely on eyelid movements.

This is a typical data-to-knowledge problem, one of the NICTA priority challenges, in which a number of important ICT issues have to be addressed and investigated to develop this metric.

Professor Bob Williamson, Director of NICTA's Canberra Research Laboratory, commented that NICTA was pleased to have formed this collaborative relationship with Seeing Machines, "Forming collaborative relationships with innovative Australian SME's such as Seeing Machines is central to NICTA's collaboration pillar. We look forward to a very productive research relationship with Seeing Machines, and hope to explore further opportunities for collaboration around the broader Smart Cars platform. "

Seeing Machines CEO, Tony Kinnear, said this project was an important step towards Seeing Machines' long-term goal of delivering a robust driver warning platform. "We believe that a combination of complementary measurements such as head movement, blink rate, steering wheel movement and lane departure tracking will be streamed through our Driver State Sensor platform to detect and deal with fatigue and distraction. In order to save lives and reduce accident rates, driver state sensor technology must become an accepted component of in-vehicle safety systems in 'smart cars' of the future, similar to seatbelts and air-bags."

About NICTA

National ICT Australia (NICTA) is a national laboratory with a charter to build Australia's pre-eminent Centre of Excellence for information and communications technology (ICT). NICTA is building capabilities in ICT research, research training and commercialisation in the ICT sector for the generation of national wealth.



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NICTA was established and is supported by its members: The Australian Capital Territory Government; The Australian National University; NSW Department of State and Regional Development; and The University of New South Wales. NICTA is also supported by its partners: the University of Sydney; University of Melbourne; the Victorian Government and the Queensland Government; Griffith University; Queensland University of Technology; and Queensland University.

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About Seeing Machines

Seeing Machines delivers advanced computer vision solutions for transport safety applications, medical devices, robotics, sports and entertainment, human factors research and development and humancomputer human interaction applications. Seeing Machines flagship product, called faceLAB™, is an award winning head, eye and blink tracking system. faceLAB™ solves the problems of observing human behaviour naturalistically, by utilising a completely non-intrusive, automatic and highly accurate vision-based sensor. For more information, visit www.seeingmachines.com.

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