Keynote 1	The Responsibility Sensitive Safety (RSS) Formal Model toward Safety Guarantees for Autonomous Vehicles
Speaker	**Prof. Amnon Shashua** *CEO& CTO, Mobileye, an Intel company, US	and Senior Vice President, Intel Corporation*

Abstract

In recent years, car makers and tech companies are racing toward self-driving cars. A critical component in getting society acceptance to the technology is to find a way to guarantee safety. The prevailing common wisdom is a data-driven empirical approach for safety validation where the more mileage driven the better the maturity of the system must be. I will describe a model in which the sources of errors due to Planning (the actions and decisions for negotiating motion in traffic) can be fenced out from the data driven approach through a formal model of the common sense behind human judgment of what it means to cause an accident and how to define actions that will guarantee that the AV will never cause an accident due to Planning. The model creates a clear distinction of what can be certified by regulators and what should be left to the judgment of AV manufacturers. The RSS model also puts in context the conversation of "ethical dilemmas" by providing a formal framework for the discussion.

Biography

Prof. Amnon Shashua holds the Sachs chair in computer science at the Hebrew University of Jerusalem. His field of expertise is computer vision and machine learning. For his academic achievements he received the MARR prize Honorable Mention in 2001, the Kaye innovation award in 2004, and the Landau award in exact sciences in 2005. In 1999 Prof. Shashua co-founded Mobileye, an Israeli company developing a system-on-chip and computer vision algorithms for a driving assistance system, providing a full range of active safety features using a single camera. Today, approximately 20 million cars from 25 automobile manufacturers rely on Mobileye technology to make their vehicles safer to drive. In August 2014, Mobileye claimed the title for largest Israeli IPO ever, by raising $1B at a market cap of $5.3B. In addition,

Mobileye is developing autonomous driving technology with more than a dozen car manufacturers. The introduction of autonomous driving capabilities is of a transformative nature and has the potential of changing the way cars are built, driven and own in the future. In August 2017, Mobileye became an Intel company in the largest Israeli acquisition deal ever of $15.3B. Today, Prof. Shashua is the CEO and CTO of Mobileye and a Senior Vice President of Intel Corporation leading Intel's Autonomous Driving Group. In 2010 Prof. Shashua co-founded OrCam which harnesses computer vision and artificial intelligence to assist people who are visually impaired or blind. The OrCam MyEye device is unique in its ability to provide visual aid to hundreds of millions of people, through a discreet wearable platform. Within its wide-ranging scope of capabilities, OrCam's device can read most texts (both indoors and outdoors) and learn to recognize thousands of new items and faces.