Towards Affordable Self-driving Cars

Abstract

The revolution of self-driving cars will happen in the near future. Most solutions rely on expensive 3D sensors such as LIDAR as well as hand-annotated maps. Unfortunately, this is neither cost effective nor scalable, as one needs to have a very detailed up-to-date map of the world.In this talk, I?ll review our current efforts in the domain of autonomous driving. In particular, I'll present our work on stereo, optical flow, appearance-less localization, 3D object detection as well as creating HD maps from visual information alone. This results in a much more scalable and cost-effective solution to self-driving cars.

Biography

Raquel Urtasun is an Associate Professor in the Department of Computer Science at the University of Toronto and a Canada Research Chair in Machine Learning and Computer Vision. Prior to this, she was an Assistant Professor at the Toyota Technological Institute at Chicago (TTIC), an academic computer science institute affiliated with the University of Chicago. She received her Ph.D. degree from the Computer Science department at Ecole Polytechnique Federal de Lausanne (EPFL) in 2006 and did her postdoc at MIT and UC Berkeley. Her research interests include machine learning, computer vision and robotics. Her recent work involves perception algorithms for self-driving cars, deep structured models and exploring problems at the intersection of vision and language. She is a recipient of an NVIDIA Pioneers of AI Award, a Ministry of Education and Innovation Early Researcher Award, two Google Faculty Research Awards, a Connaught New Researcher Award and a Best Paper Runner up Prize awarded at the Conference on Computer Vision and Pattern Recognition (CVPR). She is also Program Chair of CVPR 2018, an Editor of the International Journal in Computer Vision (IJCV) and has served as Area Chair of multiple machine learning and vision conferences (i.e., NIPS, UAI, ICML, ICLR, CVPR, ECCV, ICCV).