Title

Complete pick-and-place workflow for robot manipulators

Abstract

Many pick-and-place robotic applications requires a lengthy workflow: from computer vision and deep learning for object detection, to motion planning and control. This workflow may require multiple programming languages. In MATLAB[®] and Simulink[®], this process is integrated. In this presentation, we will show you how to label images and produce training data sets, train neural networks, deploy computer vision algorithms, perform path planning, and tune motion controller for a Kinova Robot arm hardware, without leaving MATLAB and Simulink.

Bio

Carlos Osorio is a Senior Application Engineer at MathWorks. Carlos specializes in automatic control systems and vehicle dynamics. Before joining MathWorks in 2007, he worked in the automotive industry in the Advanced Chassis Technology Department at Visteon Corporation, where he was involved in the development and implementation of prototype electronic active and semi-active suspensions and steer-by-wire and brake-by-wire systems for passenger vehicles. Carlos received a B.S. from the Pontificia Universidad Catolica del Peru and an M.S. from the University of California at Berkeley, both in mechanical engineering.