Propuesta Tesis Doctoral

The grasping problem in autonomous manipulation for robots has been widely studied in the last few years, however, several solutions are based on heuristic and fixed algorithms to reach a predefined performance. Most of the works based on autonomous grasping are based on vision as main sensor implying high image processing demand for the computer system. According to that, identifying the piece's dimensions and orientations is fundamental to obtain suitable grasping processes.

Such processes are widely used in industry where pieces and objects are of different sizes and shapes which the robot has to deal with grasping and placing the piece. Because of that, solution based on image processing using a model for the robot's environment dynamic and machine learning techniques are presented as an interesting approach.

Regardless of solutions based on image processing and autonomous manipulation has been widely studied, machine learning algorithm for coordination of several manipulators and production planning for robot unsupervised attending on uncertain and heterogeneous pieces is one of the main problems that hasn't covered widely yet.