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Model Based Approach for Enhancement of Machining Accuracy in Robotic Milling

Implantation of various virtual and real time technical parameters so that there should not be any chance of error or accident so that the function can be performed easily and smoothly within a given time frame because the process need to be economic and feasible so that the cost should not to be matter of concern.Robotic milling can be regarded as option for CNC milling to provide machining solution there are significant differences between the Robotic and CNC machining processes. CNC machining has opened the door for new possibilities in building complex and complicated design shapes which can be digitally generated, but CNC machining has been restricted work envelope and produce shape limitation. Introduction of Robot in industries has provided an optimal technology for developing reconfigurable and flexible, manufacturing systems. Robotic machining contributes to carry out several automated operations such as roughing, grinding, drilling, milling, surface finishing etc. In this thesis, we had integrated the software and hardware to find the accuracy and potential robotic milling for various industrial application. In this we tackle some technical aspects in respect of robotic milling with some cam technique, in order to overcome the shape and size limitation of CNC machining. We had provided comparative study of model generated by robot through software and hardware with respect of original model and find out the accuracy of the robotic milling process. It consists of several stages like scanning through software, modelling or designing of the scanning model through the software and the optimising the process and make it compatible enough to be run on the robot through calibration and generating the real-time model apart of the virtual world and comparing the model to the original one.