

## Automatic Generating CNC-Code for Milling Machine

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**Abstract :** G-code is the main factor in computer numerical control (CNC) machine for controlling the tool-paths and generating the profile of the object's features. For obtaining high surface accuracy of the surface finish, non-stop operation is required for CNC machine. Recently, to design a new product, the strategy that concerns about a change that has low impact on business and does not consume lot of resources has been introduced. Cost and time for designing minor changes can be reduced since the traditional geometric details of the existing models are applied. In order to support this strategy as the alternative channel for machining operation, this research proposes the automatic generating codes for CNC milling operation. Using this technique can assist the manufacturer to easily change the size and the geometric shape of the product during the operation where the time spent for setting up or processing the machine are reduced. The algorithm implemented on MATLAB platform is developed by analyzing and evaluating the geometric information of the part. Codes are created rapidly to control the operations of the machine. Comparing to the codes obtained from CAM, this developed algorithm can shortly generate and simulate the cutting profile of the part.

**Keywords :** geometric shapes, milling operation, minor changes, CNC Machine, G-code, cutting parameters

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