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CERTIFICATE

This is to certify that the dissertation titled “**Non linear pattern recognition using volterra series and HOG**” is a bonafide record of work done by **Gunjan Rajput, Roll No. 2K13/VLSI/08** at **Delhi Technological University** for partial fulfilment of the requirements for the degree of Master of Technology in VLSI and Embedded System Design. This project was carried out under my supervision and has not been submitted elsewhere, either in part or full, for the award of any other degree or diploma to the best of my knowledge and belief.

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ABSTRACT

This master thesis addresses issues related to non linear pattern recognition. More specifically we are interested in various non linear patterns from the one dimensional images for example recognition of analog signals, detection can be done in two dimensional also in case of human beings poses. In this thesis feature extraction vector is used to detect the non linear patterns for example HOG (Histogram of oriented gradients) and volterra series.

As in our daily life there are various types of non linear patterns and recognition of those non linear patterns will be essential. For example in power quality event detection, signal detection by robotic machines.

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ABBREVIATIONS

HOG Histogram of oriented gradients

PC Personal computer

SVM Support vector machine

GR Global representative

LR Local representative

ROI Region of interest selection