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**FACULTY OF ENGINEERING
AND
INFORMATION TECHNOLOGY**

School of Engineering

Final Year Engineering Project Report

Project Title : **Image Enhancement using Neural Network**

Route : **B. Eng Communication & Electronic Engineering**

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1st Supervisor : **Mr. Lachman Das**

2nd Supervisor : **Mr. Ammar**

Project Coordinator : **Dr. Khedr**

Duration : **September 2001 – May 2002**

UNIVERSITY of
NORTHUMBRIA  at NEWCASTLE



ABSTRACT

This project is designed to enhance image through the medium of neural network. An image element that has been processed by Image Processing Toolbox is fed to the neural network. It is important that the image is properly transformed into data that is suitable for enhancement. The image elements have to be in binary element to be in order to be enhanced. Therefore, this part of the project is done by utilizing Image Processing Toolbox.

A Hopfield neural network is chosen to undertake this enhancement duty. This is because Hopfield network is renowned for pattern classification. Through the neural network, utilizing enhancement techniques such as histogram equalization and contrast enhancement enhances the image data. Simulation work have been done based on the enhancement algorithms provided, although further work need to be continued.