# National University of Science and Technology

**Think in Other Terms**

## A LEAF RECOGNITION SYSTEM FOR INDIGENOUS TREE IDENTIFICATION USING PROBABILISTIC NEURAL NETWORK.

**FACULTY:** APPLIED SCIENCES

**DEPARTMENT:** COMPUTER SCIENCE

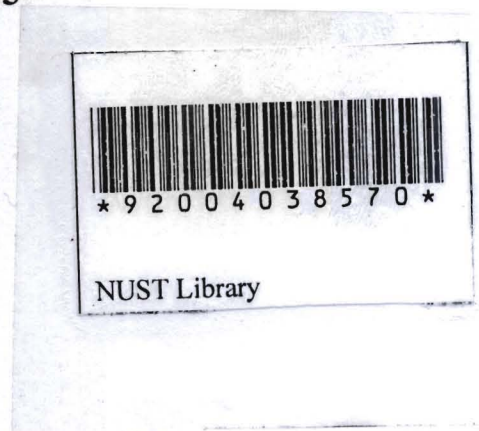**STUDENT NAME:** KENNY TINASHE MPARIWA

**STUDENT ID:** P0111534T

**PROJECT SUPERVISOR:** MRS S. S DUBE

**PROJECT YEAR:** May 2015

This final year project is submitted to the Computer Science Department of the National University of Science and Technology in partial fulfilment of the requirements of the Bachelor of Science (Honours) Degree in Computer Science.

**Abstract**

This project is to design and develop a leaf recognition system for indigenous tree identification using probabilistic neural network. The images are captured using a camera, then uploaded to the recognition system. A live image of a leaf can also be captured using the webcam. Reference images are uploaded to the system, particular features are extracted which will be used for matching with the probe image. The probabilistic neural network is trained using supervised learning will then assist in displaying the match results. The programming language we chose for developing our system is MATLAB which is a high-level language and interactive environment for numerical computation, visualization, and programming.