

642  
SIR

cey

# AUTOMATIC MEASUREMENT OF AVERAGE LENGTH OF COCONUT FIBER

A PROJECT REPORT PRESENTED BY

A.C.P.K. SIRIWARDHANA

to the Board of Study in Statistic & Computer Science of the  
**POSTGRADUATE INSTITUTE OF SCIENCE**

*in partial fulfillment of the requirement  
for the award of the degree of*

**MASTER OF SCIENCE IN COMPUTER SCIENCE**

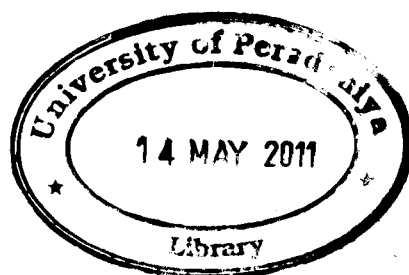
of the

**UNIVERSITY OF PERADENIYA**

**SRI LANKA**

**2010**

**645678**



# **AUTOMATIC MEASUREMENT OF AVERAGE LENGTH OF COCONUT FIBER**

**A.C.P.K.Siriwardhana**

Post Graduate Institute of Sciences

University of Peradeniya

The length of coconut fiber is the main key factor that is considered at export market. There are many issues that have to be attended when it is required to estimate the average length of a coconut fibre. Naturally fibers exists as single fiber, cross fiber and curve fiber. This creates difficulties when the length measurements are taken. The objective of this study is to develop an automatic system, which is capable of estimating the length of coconut fiber efficiently and accurately.

A system is developed based on image processing techniques. Image taken from a webcam is preprocessed first, and then the processed image is scanned pixel by pixel from the starting point to the end point. Scanned pixels are stored in an array. The procedure is repeatedly applied for all fibers in the image. Finally the average fiber length is computed based on the stored values.

The system was tested with single fibers, multiple fibers, and multiple fibers cross one another. Test result indicated that the system functions effectively and reliably.