DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING
TEZPUR UNIVERSITY

NAPAAM, TEZPUR – 784 028

CERTIFICATE

This is to certify that the work presented in the report entitled *"A FLOW BASED ANOMALY DETECTION SYSTEM USING ENTROPY AND HOLT-WINTERS FORECASTING MODELS"* submitted in partial fulfillment of the requirement for the degree of Master of Computer Application (MCA), was carried out by Eliza Chelleng(CSM09039) and Purnima Pathak (CSM09037) under my supervision. The work has not been submitted to any other institute for the award of any other degree.

Sanghamitra Nath

Date:04.06.2012

Place: Tezpur

Internal Guide

Mrs. Sanghamitra Nath

Assistant Professor

Dept. of CS & E

Tezpur University

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
TEZPUR UNIVERSITY
NAPAAM, TEZPUR – 784 028

CERTIFICATE

This dissertation entitled *"A FLOW BASED ANOMALY DETECTION SYSTEM USING ENTROPY AND HOLT-WINTERS FORECASTING MODELS"* submitted by Eliza Chelleng (CSM09039) and Purnima Pathak (CSM09037) in partial fulfillment of the requirement for the degree of Master of Computer Application (MCA) of Tezpur University has been examined.

Internal Examiner
Date:
Place:

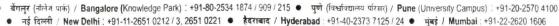External Examiner
Date: .06.2012
Place:

16th May 2012

To whomsoever concern

This is to certify that Ms. Eliza Chelleng, final year MCA, Department of Computer Science and Engineering, Tezpur University, Napaam, Tezpur-784028, Assam, has successfully completed her internship at C-DAC, Electronics City, Bangalore during January 2012 till May 2012. She was directly reporting to Mr.Muraleedharan who was coordinating her work during this period.

She carried out research in the field of anomaly detection for identifying intrusions and her specific contribution was in devising, implementing and validating an anomaly detection system based on Entropy and Holt-Winter models using Flow data. Her work is commendable and has further research potential.

Subramanian N
Joint Director (Network Security)

16th May 2012

To whomsoever concern

This is to certify that Ms. Purnima Pathak, final year MCA, Department of Computer Science and Engineering, Tezpur University, Napaam, Tezpur-784028, Assam, has successfully completed her internship at C-DAC, Electronics City, Bangalore during January 2012 till May 2012. She was directly reporting to Mr.Muraleedharan who was coordinating her work during this period.

She carried out research in the field of anomaly detection for identifying intrusions and her specific contribution was in devising, implementing and validating an anomaly detection system based on Entropy and Holt-Winter models using Flow data. Her work is commendable and has further research potential.

Subramanian N
Joint Director (Network Security)

Acknowledgements

In completion of this project and dissertation work entitled "Flow based Anomaly Detection using Entropy and Holt-Winter Forecasting Technique", we share a thought of giving an ovation to all the people for their support, valuable and guidance that has helped us carrying out this work.

At the very outset we would like to acknowledge our sincere thanks to our external guide Muraleedharan N, Senior Technical officer at Centre for Development of Advanced Computing (Bangalore), for his unique insight and warm guidance. He has always been encouraging and enthusiastic and it has been a genuine pleasure working with him.

We would like to show our thankfulness to Mr. Subramanian N, Joint Director, CDAC (Bangalore), and Prof. Syamanta M Hazarika, Professor, Tezpur University, for their consistent support and guidance for carrying out the project.

We would like to take the opportunity to express our deep sense of gratitude to Mr. Rahul Kumar, Project Engineer(CDAC), for helping us through out the project and also the entire CDAC staff for being cooperative during our stay at CDAC.

Finally we would like to thank Mrs. Sanghamitra Nath, Assistant Professor, Tezpur University and all our classmates for their valuable help and mental support throughout the period.