

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.

Date:09.06.2012 Place: Tezpur

Sanghametra Nath Internal Guide

Internal Guide Mrs. Sanghamitra Nath Assistant Professo**Assistant Professor** Dept. of CS & E_{Department} of Computer Science & Engg. 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 E 5.20 Date: 40 Tezpur Tezpur Place Department st

External Examiner Date: .06,2012 Place:

प्रगत संगणन विकास केन्द्र CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING



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16th May 2012

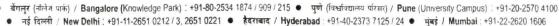
To whomsoever concern

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.

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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.

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