A Project Report

on

ANOMALY DEVICE FINGERPRINTING

Submitted for the partial fulfillment of the requirement

for the award of the Degree of

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE & ENGINEERING

by

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Under the Supervision of

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Under the Supervision of

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(State Private University through State Legislature Act No 10 of 2013 of Uttarakhand and approved by UGC)

Mussoorie Diversion Road, Dehradun, Uttrakhand-248009, India

2019-2020

DECLARATION

This is to certify that the Project entitled **"Anomaly Device Fingerprinting"** in partial fulfillment of the requirement for the award of the **Degree of Bachelor of Technology in Computer Science & Engineering**, submitted to **DIT University, Dehradun, Uttarakhand, India,** is an authentic record of my own work carried out during the period January 2020 to May 2020, under the supervision of **Mr. Saket Arun Jadhav**.

The matter embodied in this Project has not been submitted for the award of any other degree or diploma to any University/Institution.

Ritam Ghosh

160111046

Date: 12/04/2020

Place: Dehradun

CERTIFICATE

This is to certify that the Project entitled **"Anomaly Device Fingerprinting"** in partial fulfillment of the requirement for the award of the **Degree of Bachelor of Technology** in **Computer Science & Engineering**, submitted to **DIT University, Dehradun, Uttarakhand, India,** is an authentic record of bonafide research work carried out by **Mr. Ritam Ghosh, 160111046** under my supervision.

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IBM Trainer
DIT University

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Date: 12/04/2020
Place: Dehradun

ABBREVIATIONS

CNN	CONVOLUTIONAL NEURAL NETWORK [3]
RNN	RECURRENT NEURAL NETWORKS [3]
RELU	RECTIFIED LINEAR UNIT [2]

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Ritam Ghosh

ABSTRACT

This project automates the various manual procedures that occur during device fingerprinting which is commonly used for tracking, monitoring & detection. In this device fingerprinting is used but in the specific context of anomaly, providing signatures & pattern analysis of incoming & outgoing processes of a network of an organisation to maintain security standards. Device Fingerprinting is a new way of differentiating between a valuable client, employee and professional fraudster online. Online identity verification and authentication is a significant challenge and concern to all business owners to safeguards their organisation interest.

So, the topic “Anomaly Device Fingerprinting” is chosen to develop an automated system which can validates internal security from inside and outside world. It will not only act as a self-propelled firewall from an organisation but as a monitoring, tracking and detection system for an organisation having full control of it. This automated system will reduce the risk as having own monitoring system than trusting other 3rd party firewall. Here an automated programmed & algorithm will be developed as per datasets generated after pre-processing & transformation of raw data which will help in having an automated device fingerprinting system for network analysis.

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