

VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI



Project Report on

DETECTION OF MANUPALATED MULTIMEDIA IN DIGITAL FORENSICS USING MACHINE LEARNING

Submitted by

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In partial fulfillment of the requirement for the award of the

Bachelor of Engineering

In

Computer Science & Engineering

Under the Guidance of

Dr. Anand Gudnavar

Associate Professor

Subject Code: 18CSP83



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Department of Computer Science & Engineering
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Jain College of Engineering & Research, Belagavi

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CERTIFICATE

This is to certify that the report on **“DETECTION OF MANUPALATED MULTIMEDIA IN DIGITALFORENSICS USING MACHINE LEARNING”** is a bonafied work carried out by Mohanish Nagzarkar (2JR19CS042), Preetam Anvekar (2JR19CS052), Tejashwini Pallakke (2JR19CS088) and Shraddha Sambrekar (2JR20CS421) in partial fulfillment of VIII semester, to award the degree in Computer Science & Engineering of the Visvesvaraya Technological University, It is witnessed that all corrections/suggestions indicated have been incorporated in the report. The report has been approved as it satisfies all the academic requirements in respect of report as prescribed for the degree in engineering

Guide

(Dr. Anand Gudnavar)

HOD

(Dr. Pritam Dhumale)

Principal

(Dr. S. V Gorabal)

Name of External examiners

1.

2.

Signature with date

Declaration

We the members of the project team, studying in the VIII semester of Computer Science & Engineering, Jain College of Engineering and Research, hereby declare that the entire project entitled "**DETECTION OF MANUPALATED MULTIMEDIA IN DIGITAL FORENSICS USING MACHINE LEARNING**" has been carried out by us independently under the guidance of Dr. **Anand Gudnavar**, Department of Computer Science & Engineering, Jain College of Engineering and Research. This Project work is submitted to the Visvesvaraya Technological University, Belagavi, in partial fulfillment of the requirement for the award of the degree of **Bachelor of Engineering in Computer Science & Engineering**. This dissertation has not been submitted previously for the award of any other degree to any other institution or university.

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Place: Belagavi

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ABSTRACT

Manipulation of multimedia has increased all over the world. Different tools are used to alter the multimedia and it is difficult to detect genuine and fake media. People are facing problem to detect the media that is real or fake. Due to manipulated media cybercrime is increasing in widespread. In this digital world where all the basic works are done smoothly, we believe that a security and privacy of the person should also be carried and implemented in with ease and smartness. We analyzed through the statistics data and we came across a significant percentage of people who go through harassment or other kind of abuse throughout the time respectively. Based on the survey done on the existing system we proposed application to detect the genuine and fake media in single application using CNN (Convolutional Neural Networks) algorithm. Compared to the older networks and different methods, a CNN performance better with image and speech or audio inputs. CNN hidden extract feature from input using pixels value and computation based on edges and outline of the inputs. Digital forensic analysis tools are being widely used by criminal investigations to automate the identification of digital evidence in seized electronic equipment. The number of files to be processed and the complexity of the crimes under analysis have highlighted the need to employ efficient digital forensics techniques grounded on state-of-the-art technologies. Machine Learning (ML) researchers have been challenged to apply techniques and methods to improve the automatic detection of manipulated multimedia content. However, the implementation of such methods have not yet been massively incorporated into digital forensic tools, mostly due to the lack of realistic and well-structured datasets of photos and videos. The diversity and richness of the datasets are crucial to benchmark the ML models and to evaluate their appropriateness to be applied in real-world digital forensics applications.

Keyword: Manipulate media, Cnn, Machine learning, Digital forensics, cyber sec.