

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belagavi-560014, Karnataka



PROJECT REPORT ON

*"IMPLEMENTING THE TOOL FOR DETECTION OF DEEPPFAKE"
SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
PROJECT*

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE & ENGINEERING

Submitted By

Ms. MYTHRI B N	[1SV20CS029]
Mr. NETHRA PRASAD D R	[1SV20CS032]
Mr. PARTHA H R	[1SV20CS033]
Mr. SRIKIRAN B	[1SV20CS049]

Under the guidance of

Dr. Dinesha H A B.E., MTech., PhD.
Professor & Dean (R &D) of Dept. of CSE,
SIET, Tumakuru



Department of Computer Science and Engineering

SHRIDEVI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Affiliated To Visvesvaraya Technological University)

Sira Road, Tumakuru – 572106, Karnataka.

2023-2024



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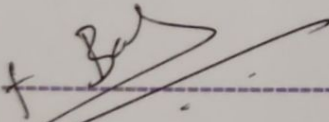
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

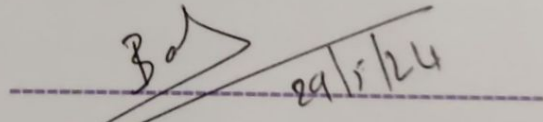
CERTIFICATE

This is to certify that, Project report of entitled "IMPLEMENTING THE TOOL FOR DETECTION OF DEEPPAKES" has been successfully carried out by Ms. MYTHRI B N [ISV20CS029], Mr. NETHRA PRASAD D R [ISV20CS032], Mr. PARTHA H R [ISV20CS033], Mr. SRIKIRAN B [ISV20CS049] in partial fulfillment for the project report of Bachelor of Engineering in Computer Science & Engineering of the Visvesvaraya Technological University, Belagavi during the academic year 2023-24. It is certified that all the corrections/suggestions indicated for internal assessments have been incorporated in the report. The Project report has been approved as it certifies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.



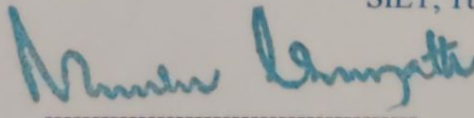
Signature of Guide

Dr. Dinesha H A B.E., MTech., PhD.,
Professor & Dean(R&D)
Dept. of CSE,
SIET, Tumakuru.

 29/5/24

Signature of H.O.D

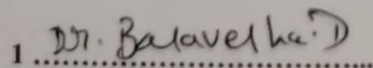
Dr. Basavesha D BE., M.Tech., PhD
Associate Professor & HOD
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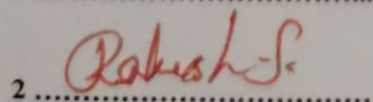


Signature of Principal

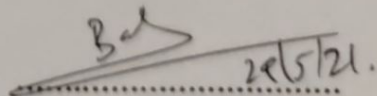
Dr. Narendra Viswanath M.E., Ph.D., MIE, MISTE, MIWS, FIV.,
Principal, SIET, Tumakuru

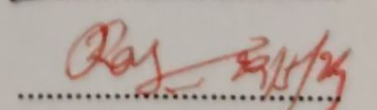
Name of the Examiners

1 

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Signature with date

 29/5/24

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

DECLARATION

We, Ms. MYTHRI B N [1SV20CS029], Mr. NETHRA PRASAD D R [1SV20CS032], Mr. PARTHA H R [1SV20CS033], Mr. SRIKIRAN B [1SV20CS049] students of VIII semester B.E in Computer Science & Engineering, at Shridevi Institute of Engineering & Technology, Tumakuru, here by declare that, the Project work entitled "IMPLEMENTING THE TOOL FOR DETECTION OF DEEPAKES" embodies the report of our Project work carried out under the guidance of Dr. Dinesha H A Professor & Dean(R&D), Department of CSE, SIET, Tumakuru as partial fulfillment of requirements for the Project report in Bachelor of Engineering in Computer Science & Engineering of Visvesvaraya Technological University, Belagavi, during the academic year 2023-24. The Project has been approved as it satisfies the academic requirements in respect to the Project work.

Place: Tumakuru

Student Name & Signature

Date:

Ms. MYTHRI B N

[1SV20CS029]

Mythri B N

Mr. NETHRA PRASAD D R

[1SV20CS032]

Nethra Prasad D R

Mr. PARTHA H R

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Mr. SRIKIRAN B

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BONAFIDE CERTIFICATE

This is to certify that, Project work phase II entitled "IMPLEMENTING THE TOOL FOR DETECTION OF DEEPFAKES" is a bonafide in the work of, Ms. MYTHRI B N [ISV20CS029], Mr. NETHRA PRASAD D R [ISV20CS032], Mr. PARTHA H R [ISV20CS033], Mr. SRIKIRAN B [ISV20CS049] of VIII semester of B.E in Computer Science and Engineering carried out at Shridevi Institute of Engineering and Technology in partial fulfillment for requirements for the award of **Bachelor of Engineering in Computer Science & Engineering** of the **Visvesvaraya Technological University, Belagavi** during the academic year **2023-24** under my supervision and guidance. Certified to the best of my knowledge the work reported here is not a part of any other thesis on the basis of which degree or award was conferred on earlier occasion to these or any other candidates.

Guide:

Dr. Dinesha H A B.E., MTech., Ph.D.,

Professor & Dean(R&D), Dept. of CSE

ACKNOWLEDGEMENT

This Project will be incomplete without thanking the personalities responsible for this venture, which otherwise would not have become a reality.

We express our profound gratitude to **Dr. Narendra Viswanath**, Principal, S.I.E.T, for his moral support towards completing our Project work.

We would like to thank Head of Department **Dr. Basavesha D** Head, Department of CSE, SIET for providing all the support and facility.

We would like to thank our guide **Dr. Dinesha H A** Dean (R &D), Department of Computer Science and Engineering, SIET for her help, sharing her technical expertise and timely advice.

We would like to thank our Project Coordinator, **Dr. Girish L** Head, Department of AI and DS, & **Mrs. Rashmi N** Assistant Professor, Department of CSE, SIET for her help, sharing her technical expertise and timely advice.

We would like to express our sincere gratitude to all teaching and non-teaching faculty of the department of CSE for guiding us of this project by giving valuable suggestion and encouragement.

By,

Ms. MYTHRI B N [ISV20CS029]

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ABSTRACT

With the advancement of artificial intelligence (AI) and cloud computing, audio, video, and image manipulation techniques have grown faster and more sophisticated. This type of media content is known as deepfakes. It is becoming increasingly possible for computers to control media in increasingly convincing ways, for instance, by having a duplicate of a public individual's voice or superimposing one person's face onto another. Media confirmation, media provenance, and deepfake discovery are the three types of countermeasures used to counteract deepfakes. Multi-modal detection techniques are used in deepfake detection solutions in order to detect whether target media has been altered or synthesized. There are two types of detection techniques in use today: manual and algorithmic. Techniques utilizing human media analysts with access to software include traditional manual techniques. AI-based algorithms are used in algorithmic detection to detect manipulated media. We aim to build a Long Short-Term memory (LSTM) network model to help detect deepfakes which can be applied to solve several real world problems caused by deepfakes ranging from distortion of democratic discourse; manipulation of elections; Weakening the credibility of institutions; weakening journalism; causing social divisions; sabotaging public well-being; and causing long-lasting damage to prominent people, including those authorities and possibility for office. In this work, we present our profound convolutional neural organization put together model approved with respect to Deepfake Detection Challenge dataset for crucial AI research in deepfake discovery. Here we train the dataset on various convolution neural network models like ResNet50 + LSTM, MesoNet, DenseNet121 and custom models. Our best model of ResNet50 + LSTM has an accuracy score of 94.63%. By implementing this project, To execute code with essential python libraries such as Keras, Matplotlib, sklearn, and others, Google Colab and Jupiter Notebook are utilized. The model has demonstrated that it is possible to use these types of models and apply it in real world for curbing deepfake videos.

Keywords: Deepfake, Generative Adversarial Network (GAN), Deep Learning, Convolutional Neural Network (CNN), Long Short-Term Memory (LSTM)