AI VS HUMAN: ACADEMIC ESSAY AUTHENTICITY CHALLENGE

A PROJECT REPORT

Submitted by,

INDUPURI MOHAN VAMSI - 20211CEI0127
PANTANGI CHAKRADHAR RAO - 20211CEI0144
CHITTURI THIRU MOHITH - 20211CEI0145
MANDAVA VENKATA SUBASH - 20211CEI0148

Under the guidance of,

Dr. SMITHA PATIL

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

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(Artificial Intelligence and Machine Learning)

At

PRESIDENCY UNIVERSITY

BENGALURU

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PRESIDENCY UNIVERSITY
SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **"AI VS HUMAN: ACADEMIC ESSAY AUTHENTICITY CHALLENGE"** being submitted by M VENKATA SUBASH, CH THIRU MOHITH, P CHAKRADHAR RAO, I MOHAN VAMSI bearing roll number(s) 20211CEI0148, 20211CEI0145, 20211CEI0144, 20211CEI0127 in partial fulfillment of the requirement for the award of the degree of **Bachelor of Technology** in **Computer Engineering (AI&ML)** is a Bonafide work carried out under my supervision.

Dr. SMITHA PATIL
Assistant Professor
School of CSE
Presidency University

Dr. GOPAL KRISHNA SHYAM
Professor & HoD
School of CSE
Presidency University

Dr. L. SHAKKEERA
Associate Dean
School of CSE
Presidency University

Dr. MYDHILI NAIR
Associate Dean
School of CSE
Presidency University

Dr. SAMEERUDDIN KHAN
Pro-VC School of Engineering
Dean -School of CSE&IS
Presidency University

PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE ENGINEERING

DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **AI VS HUMAN: ACADEMIC ESSAY AUTHENTICITY CHALLENGE** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Engineering (AI &ML)**, is a record of our own investigations carried under the guidance of **Dr. SMITHA PATIL, ASSISTANT PROFESSOR, School of Computer Science Engineering , Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

Name Of Student(s)	Roll Number(s)	Signature(s)
M Venkata Subash	20211CEI0148	M. Subash
CH Thiru Mohith	20211CEI0145	Ch. Thiru
P Chakradhar Rao	20211CEI0144	P. Chakradhar Rao
I Mohan Vamsi	20211CEI0127	I. Mohan Vamsi

ABSTRACT

The rise of artificial intelligence (AI) has transformed many industries, including the academic sector, where AI-generated essays pose a threat to academic integrity. This project, titled "AI VS HUMAN: ACADEMIC ESSAY AUTHENTICITY CHALLENGE," focuses on developing a system to differentiate between AI-generated and human-written academic essays. The core objective is to design a machine learning-based solution that accurately classifies text as either AI-generated or human-authored. The system leverages multiple machine learning algorithms, including Convolutional Neural Networks (CNN), Transformer models, and Random Forest Classifiers, to analyze and predict text origins using English text data. Additionally, the frontend is designed to accept user input in both English and Arabic. For Arabic input, the text is first translated into English before classification, enabling seamless detection of AI-generated content across multiple languages. The model is trained on a diverse dataset consisting of academic essays, including those written by both AI and humans. Through extensive training and evaluation, the model's performance is assessed based on accuracy and precision in distinguishing between human-written and AI-generated texts. This tool can assist educators, researchers, and academic institutions in identifying non-original content and promoting academic honesty. The project ultimately aims to combat the growing challenge of AI in academia by providing an efficient and reliable solution for authenticity detection.

Keywords: AI detection, human-written, AI-generated, academic integrity, essay authenticity, machine learning, CNN, Transformer, Random Forest Classifier, text classification.