**AI BASED EXAM PROCTORING SYSTEM**



**A Project Report submitted in partial fulfillment of requirements for the award of degree of**

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**by**

|  |  |
| --- | --- |
| **P. GOKULA KISHORE REDDY** | **209X1A05H6** |
| **V. PRANAY KUMAR REDDY** | **209X1A05H9** |
| **M. OBULA SAI** | **219X5A05L9** |

**Under the esteemed guidance of**

**Smt.** **B. Swathi**

**Assistant Professor**

**Department of C.S.E.**

**Department of Computer Science and Engineering**

**G. PULLA REDDY ENGINEERING COLLEGE (Autonomous): KURNOOL**

**(Affiliated to JNTUA, ANANTAPURAMU)**

**2023 - 2024**

**Department of Computer Science and Engineering**

**G. PULLA REDDY ENGINEERING COLLEGE (Autonomous): KURNOOL**

**(Affiliated to JNTUA, ANANTAPURAMU)**



**CERTIFICATE**

***This is to certify that the Project Work entitled***“**AI BASED EXAM PROCTORING SYSTEM”*****is a bonafide record of work carried out by***

|  |  |
| --- | --- |
| **P. GOKULA KISHORE REDDY** | **209X1A05H6** |
| **V. PRANAY KUMAR REDDY** | **209X1A05H9** |
| **M. OBULA SAI** | **219X5A05L9** |

**Under my guidance and supervision in partial fulfillment of the requirements for the award of degree of**

**BACHELOR OF TECHNOLOGY**

**IN**

**COMPUTER SCIENCE & ENGINEERING**

|  |  |
| --- | --- |
| **Smt. B. Swathi** Assistant Professor,  Department of C.S.E.,  G. Pulla Reddy Engineering College,  Kurnool. | **Dr. N. Kasiviswanath**  Professor & Head of the Department,  Department of C.S.E.,  G. Pulla Reddy Engineering College,  Kurnool. |

**DECLARATION**

We hereby declare that the project titled **“AI BASED EXAM PROCTORING SYSTEM”** is an authentic work carried out by us as the students of **G. PULLA REDDY ENGINEERING COLLEGE(Autonomous) Kurnool**, during 2023-24 and has not been submitted elsewhere for the award of any degree or diploma in part or in full to any institute.

P. GOKULA KISHORE REDDY

(209X1A05H6)

V. PRANAY KUMAR REDDY

(209X1A05H9)

M. OBULA SAI

(219X5A05L9)

**ACKNOWLEDGEMENT**

We wish to express our deep sense of gratitude to our project guide **Smt. B. Swathi,** **Assistant Professor** of Computer Science and Engineering Department, G. Pulla Reddy Engineering College, for her immaculate guidance, constant encouragement and cooperation which have made possible to bring out this project work.

We are grateful to our project incharge **Sri. J. Swami Naik**, **Associate Professor** of Computer Science and Engineering Department, G. Pulla Reddy Engineering College, for helping us and giving us the required information needed for our project work.

We are thankful to our Head of the Department **Dr. N. Kasiviswanath**, for his whole hearted support and encouragement during the project sessions.

We are grateful to our respected Principal **Dr. B. Sreenivasa Reddy**, for providing requisite facilities and helping us in providing such a good environment.

We wish to convey our acknowledgements to all the staff members of the Computer Science and Engineering Department for giving the required information needed for our project work.

Finally, we wish to thank all our friends and well wishers who have helped us directly or indirectly during the course of this project work.

**ABSTRACT**

The "**AI-Based Exam Proctoring System**" is a cutting-edge project proposed for the Online Examination. This project aims to develop an intelligent and automated system that ensures exam integrity, tracks attendance, and detects fraudulent activities during online exams.

The key features of the proposed system include:

      ● Face Detection for Participant Identification

      ● Real-Time Attendance Tracking to Excel Sheet

      ● Fraud Activity Detection

      ● Post-Exam Analysis

This project aims to create a comprehensive solution that combines facial recognition, attendance tracking, and fraud detection to address the challenges posed by remote online exams. Overall, this project serves as a robust solution to streamline the exam administration process, enhance exam security, and maintain academic integrity. By leveraging cutting-edge technologies, this project presents an innovative approach to conducting exams in a digital age. Its implementation will significantly benefit educational institutions.

**CONTENTS**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **CHAPTER** | | **PAGE NO** |
| **1** | **INTRODUCTION** | | **1** |
|  |  | 1.1 Introduction | 2 |
|  | 1.2 Motivation | 2 |
|  | 1.3 Problem Definition | 2 |
|  | 1.4 Objective of the Project | 3 |
|  | 1.5 Limitations of the Project | 3 |
|  | 1.6 Organization of the Project | 4 |
| **2** | **SYSTEM SPECIFICATIONS** | | **5** |
|  |  | 2.1 Software Specifications | 6 |
|  | 2.2 Hardware Specifications | 6 |
| **3** | **LITERATURE SURVEY** | | **7** |
|  |  | 3.1 Introduction | 8 |
|  | 3.2 Existing System | 8 |
|  | 3.3 Disadvantages of Existing System | 9 |
|  | 3.4 Proposed System | 11 |
| **4** | **DESIGN** | | **13** |
|  |  | 4.1 Data Flow Diagram | 14 |
|  | 4.2 UML Diagrams | 15 |
| **5** | **IMPLEMENTATION** | | **20** |
|  |  | 5.1 Web Application Initialization | 21 |
|  | 5.2 Video Processing and Fraud Detection | 22 |
|  | 5.3 Data Processing and Database Interaction | 23 |
|  | 5.4 Results Display | 23 |
|  | 5.5 System Enhancements | 24 |
|  | 5.6 Source code  5.7 Testing and Validation  5.8 Testing Methodologies  5.9 Testing Principles | 25  53  54  55 |
| **8** | **CONCLUSION AND FUTURE ENHANCEMENTS** | | **58** |
|  | **REFERENCES** | | **60** |

**LIST OF FIGURES**

**FIGURE NO FIGURE NAME PAGE NO**

Fig 4.1 Data Flow Diagram 14

Fig 4.2 Use Case Diagram 16

Fig 4.3 Class Diagram 17

Fig 4.4 Sequence Diagram 18

Fig 4.5 Activity Diagram 19

Fig 7.2 Login Page 56

Fig 7.4 User Authentication 56

Fig 7.8 Face Not Detected During Exam 57

Fig 7.10 Full screen exit detection 57

**LIST OF ABBREVIATIONS**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. | RAM |  | Random Access Memory |
| 2. | IDE |  | Integrated Development Environment |
| 3. | UML | - | Unified Modeling Language |
| 4. | DFD | - | Data Flow Diagram |