

AI Supported-AICTE Approval Process Portal

¹Dr. P. Harini,²Bellamkonda Tejaswi,³Borugadda Sushma

¹Professor & HOD, Dept of Computer Science and Engineering, St. Ann's College of Engineering and Technology, Chirala-523187, India.

^{2,3}U. G Student, Dept of Computer Science and Engineering, St. Ann's College of Engineering and Technology, Chirala-523187, India.

ABSTRACT- *The AI-Supported AICTE Approval Process Portal is a web-based application developed to make the AICTE approval process faster, easier, and more efficient. The portal allows educational institutions to register, submit application details, upload required documents, and track their approval status online. It collects important information such as faculty count, Ph.D. faculty count, student intake, infrastructure details, NAAC grade, NBA accreditation, library facilities, internet bandwidth, faculty-student ratio, and document status. The system uses a Random Forest machine learning algorithm to predict whether an institution is likely to receive AICTE approval based on the submitted data. The portal is developed using Python, Flask, HTML, CSS, JavaScript, Bootstrap, and SQLite/MySQL. It provides secure login, online application management, and real-time status tracking.*

Overall, the project reduces manual work, saves processing time, improves prediction accuracy, and provides a simple, transparent, and reliable solution for managing the AICTE approval process.

KEYWORDS: *AICTE Approval Portal, Machine Learning, Random Forest, Approval Prediction, Flask, Python, Institution Registration, Real-Time Tracking, Online Document Management.*

INTRODUCTION

The AI-Supported AICTE Approval Process Portal is a web-based application developed to simplify the AICTE approval process for educational institutions. It enables institutions to register, submit application details, upload documents, and track approval status online. The system uses the Random Forest machine learning algorithm to predict approval status based on

institutional data. It is developed using Python, Flask, HTML, CSS, JavaScript, Bootstrap, and SQLite/MySQL. The portal provides secure login, efficient document management, and real-time application tracking. It reduces manual work, improves prediction accuracy, increases transparency, and makes the approval process faster and more reliable.

LITERATURE SURVEY

Recent studies on educational approval and accreditation systems show that Artificial Intelligence and Machine Learning can significantly improve the efficiency, transparency, and accuracy of institutional evaluation processes. Researchers have focused on replacing manual verification with intelligent web-based systems that support online application submission, document management, and real-time status tracking. Machine learning algorithms, especially Random Forest, have demonstrated high accuracy in analyzing institutional parameters and predicting approval outcomes. The latest AICTE approval guidelines also emphasize digital application processing and online document submission to simplify the approval

workflow. These studies indicate that integrating AI with web technologies can reduce manual effort, minimize processing time, improve decision-making, and provide a more reliable and transparent approval process, which forms the foundation of the proposed AI-Supported AICTE Approval Process Portal.

RELATED WORK

Several researchers have developed web-based systems to simplify educational approval and accreditation processes. Earlier systems mainly focused on online application submission, document management, and approval tracking. These systems relied on manual verification, which increased processing time and workload. Recent studies have introduced Machine Learning techniques to improve approval prediction and decision-making. The proposed AI-Supported AICTE Approval Process Portal uses the Random Forest algorithm to provide faster, more accurate, and transparent approval management.

EXISTING SYSTEM

The existing AICTE approval process mainly depends on manual verification and paper-based documentation. Institutions submit application details and required documents, which are reviewed manually by authorities. This process is time-consuming, prone to human errors, and lacks real-time tracking. The absence of intelligent prediction makes the approval process less efficient and increases the workload of administrators. It also results in delays in approval decisions and reduces transparency in the overall process. Institutions have limited visibility into the progress of their applications, making it difficult to identify and resolve deficiencies quickly.

PROPOSED SYSTEM

The proposed AI-Supported AICTE Approval Process Portal is a web-based application that automates and simplifies the AICTE approval process. It allows institutions to register, submit application details, upload required documents, and track their approval status online. The system uses the Random Forest machine learning algorithm to predict the approval status based on institutional data. It provides secure login, real-time status tracking, and efficient

document management. The portal reduces manual effort, improves prediction accuracy, increases transparency, and speeds up the overall approval process. The portal enhances the reliability, efficiency, and digital transformation of the AICTE approval process through intelligent automation and predictive analytics. It ensures a faster, more reliable, and user-friendly approval process. It minimizes processing time.

SYSTEM ARCHITECTURE

The architecture of the AI-Supported AICTE Approval Process Portal consists of a user interface, application server, machine learning module, and database. The user interface allows institutions to register, submit application details, upload required documents, and track approval status. The application server processes the submitted data and communicates with the machine learning module, where the Random Forest algorithm predicts the approval status based on institutional parameters. All application details, uploaded documents, and prediction results are stored securely in the database. The system provides secure login, real-time status tracking, and efficient approval management, ensuring a transparent,

accurate, and reliable AICTE approval process.

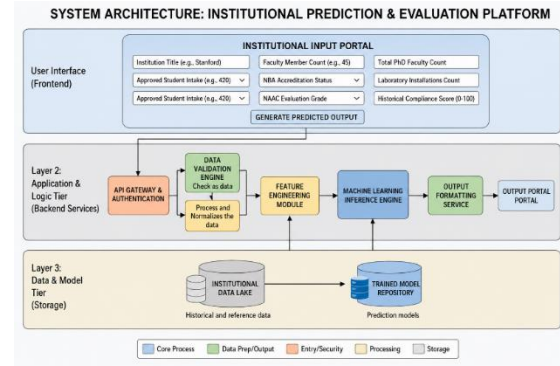


Fig: System Architecture

METHODOLOGY DESCRIPTION

The proposed AI-Supported AICTE Approval Process Portal follows a systematic approach to automate the AICTE approval process. Institutions first register and submit their application details along with the required documents through the web portal. The submitted data is preprocessed using Label Encoding, and the dataset is divided into training and testing sets using Train-Test Split. The Random Forest machine learning algorithm is then trained to analyze institutional parameters and predict the approval status. Based on the prediction, the portal displays the approval result while securely storing all application data in the database. The system also provides secure login, document management, and real-time

application tracking, making the approval process faster, more accurate, and transparent.

RESULTS AND DISCUSSION

Home page:

The Home Page is the entry point of the AI-Supported AICTE Approval Process Portal. It provides a simple interface for users to access the system through the Admin Login option. This page serves as the starting point for the AICTE approval prediction process.

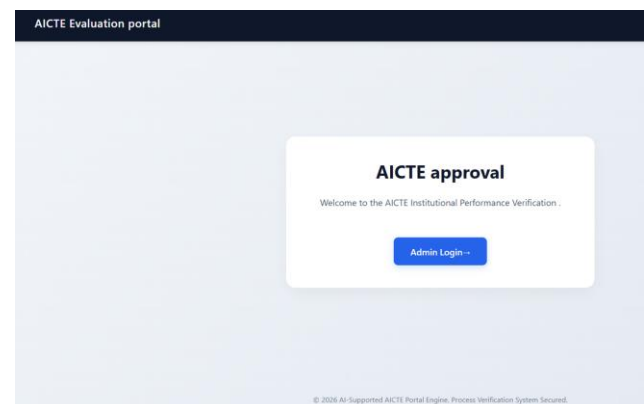


Fig2: Home page

Login Page:

The Login page allows authorized users to securely access the portal by entering their username and password. Authentication ensures that only valid administrators can access the AICTE evaluation system.

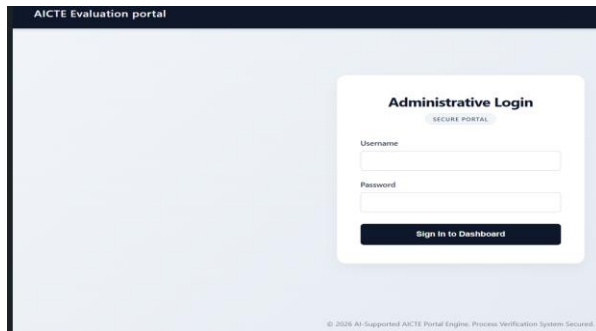


Fig 3: Login Page

Train page:

This screen is used to train the machine learning model using the AICTE approval dataset. The system evaluates multiple algorithms such as Decision Tree, Logistic Regression, and Random Forest. After successful training, the model is prepared for prediction.

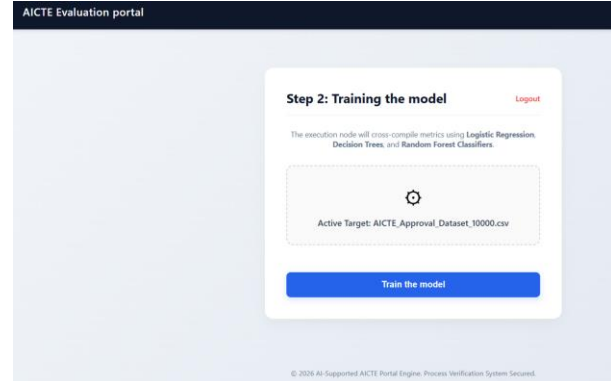
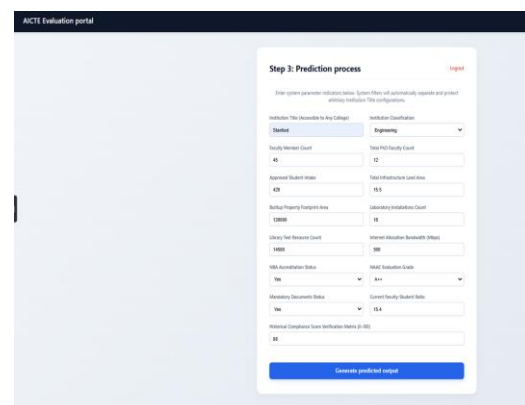


Fig 4: Train Page

Prediction Page:

The Prediction Process page collects institutional information such as faculty count, infrastructure details, accreditation status, student intake, and compliance score. These parameters are processed by the trained Random Forest model to predict the AICTE approval status.



**Fig 5: Prediction Page
Prediction Result Page:**

The AICTE Compliance Report displays the final prediction generated by the machine learning model. It indicates whether the institution satisfies the required approval criteria by showing the status as Approved or Not Approved. This report helps administrators make faster and more accurate approval decisions.

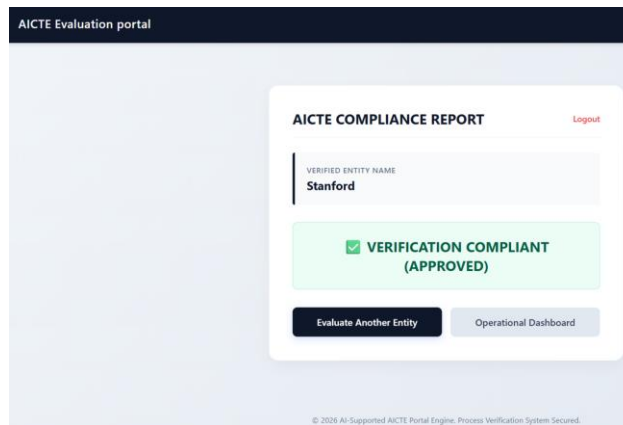


Fig-6: Prediction Result page

CONCLUSION

The AI-Supported AICTE Approval Process Portal provides a smart and efficient solution for managing the AICTE approval process. It simplifies institution registration, application submission, document management, and approval status tracking through a single online platform. By using the Random Forest machine learning algorithm, the system

predicts approval status based on institutional data, reducing manual effort and improving decision-making. Developed using Python, Flask, HTML, CSS, JavaScript, Bootstrap, and SQLite/MySQL, the portal offers secure login, transparency, and reliable application management. Overall, the project makes the approval process faster, more accurate, and user-friendly for both institutions and administrators.

FUTURE SCOPE

The portal can be enhanced by integrating advanced AI models to improve prediction accuracy and support more complex approval decisions. Future versions can include automated document verification using AI, cloud-based deployment for better scalability, mobile application support, and notification services through email or SMS. Additional features such as analytics dashboards, chatbot assistance, digital signature integration, and integration with other educational regulatory systems can further improve efficiency, transparency, and user experience. These enhancements will make the portal more intelligent, secure, and suitable for large-scale AICTE approval

management. It can detect fraudulent documents. It can improve data security.

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