|  |
| --- |
|  |
| AFCR |
| -MOHAMMED NOWFAL .A[RA2111047010032]  BALA.S[RA2111047010021] |
|  |

|  |
| --- |
|  |

**Abstract:**

As the amount of movie content continues to grow, there is a pressing need for automated solutions to help moderate and rate this content, especially when it comes to spotting foul language and scenes of violence or blood. This project aims to create a powerful machine learning model that can detect and timestamp these sensitive instances in movies.

Our approach will combine several advanced techniques: Convolutional Neural Networks (CNNs) will analyze the video frames, recurrent neural networks (RNNs) will handle the audio features, and cutting-edge Natural Language Processing (NLP) methods will scrutinize the subtitles. By merging these different types of data, our system aims to accurately identify and log when and where inappropriate content appears.

We plan to train our model using publicly available datasets that come with annotations, and we will measure its performance with precision, recall, and F1-score metrics. This innovative solution is designed to make content moderation more scalable and efficient, helping ensure that movies meet appropriate viewing standards while significantly reducing the need for manual reviews.  
  
  
  
Now The table below states the Features of Research done already in the project

|  |  |  |  |
| --- | --- | --- | --- |
| S.NO | SOURCE | FEATURES MENTIONED | FEATURES TO BE INCLUDED |
| 1  2 | Deep Architectures for Content Moderation and Movie Content Rating  Deep Learning-Based Detection of Inappropriate Speech Content for Film Censorship | The paper aims to automate the process of video content rating and moderation, which is traditionally done manually by professional committees. This involves classifying videos into appropriate age categories based on their content.  Motive is to stream the model online and make every online videos reliable and segregate according to the age    Methods used CNN SVM LSTM GRU  The paper aims to develop an intelligent system for the fast and accurate detection and localization of inappropriate speech content using advanced deep Convolutional Neural Networks (CNNs).  The research demonstrates the feasibility and effectiveness of using deep learning techniques for automating the detection of inappropriate speech content in films, providing a valuable tool for content moderation and censorship. | 1.ADVANCED AUDIO ANALYSIS CAN BE DONE WHICH EXCLUDES FOULS WORDS THIS PAPER CONCENTRATES MORE ON VOILENCE AND ABOVE AGE VISUALS  **2. Feature**: Implement explainable AI techniques to provide transparency on why certain content was rated in a particular way.   * **Benefit**: This builds trust with users and allows them to understand the decision-making process of the system.   **Visual-Audio Correlation**:   * Combine audio analysis with visual cues from the video to improve the accuracy of detecting inappropriate content, as some speech might be inappropriate in specific visual contexts.   Timestamp :  ° Producing the Frame details and time the video and audio should be corrected  Use various Deep learning and NLP models to get Finer Outputs Such as CNN SVM LSTM GRU |

|  |  |  |  |
| --- | --- | --- | --- |
| 3 | DETECTION AND CLASSIFICATION OF SENSITIVE AUDIO-VISUAL CONTENT FOR AUTOMATED FILM CENSORSHIP AND RATING | "Detection and Classification of Sensitive Audio-Visual Content for Automated Film Censorship and Rating" employs a combination of spatial and temporal features through CNN + LSTM (LRCN), Efficient LiteFlowNet CNN, DS-GRU, EfficientNet-B7 with BiLSTM, Log-Mel spectral features, MFCCs, CNNs, CRNNs, non-streaming and streaming posterior handling modes, leveraging datasets like MMUTM and TAPAD, to accurately and efficiently detect and classify sensitive content in films. | Has some more advanced features in it which excludes the nuances of the Input By excluding Every Scenes which  Loses the emotions of the creator  So in our model we our going to include the time and let  The censor board and creator decide tor remove it or not  Combine audio analysis with visual cues to improve the accuracy of detecting inappropriate content, considering the visual context in which speech occurs. |
| 4 | Machine Learning Models for Content Classification in Film Censorship and Rating | **"Machine Learning Models for Content Classification in Film Censorship and Rating"** explores the development of automated systems for film censorship and rating using machine learning (ML) techniques. It highlights the limitations of manual censorship processes, which are slow and subjective, and presents ML as a solution to classify films based on content appropriateness. The paper reviews existing ML models used in censorship, such as Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), and other algorithms, evaluating their effectiveness in detecting inappropriate content, including violence, nudity, and profanity. It emphasizes the need for a comprehensive AFCR system that can integrate sequential and multimodal analysis to improve accuracy and efficiency in content classification. Through comparative analysis, the paper demonstrates how advanced ML models can enhance the automation of content classification, leading to more reliable and faster censorship and rating processes. | **Clickable Tables**: Use interactive tables that allow users to sort and filter information, such as comparing different ML algorithms based on accuracy, speed, and resource requirements.  This paper do not have a Practical Implementation  Of the application So this can be Implemented with  Deep learning models to attain optimizes outcomes |

Novelty of AFCR Project:

The Automated Film Censorship and Rating (AFCR) project aims to develop an advanced system that automatically detects and censors inappropriate content in films using state-of-the-art machine learning models. The system will identify and mark timestamps for occurrences of profanity, nudity, and violence, providing detailed reports for content moderators. The novelty of this project lies in its comprehensive and real-time analysis of both visual and audio components, context-aware detection capabilities, and multi-language support, ensuring accurate and efficient content moderation across diverse media platforms.

literature Survey:

https://www.researchgate.net/publication/359722266\_Machine\_Learning\_Models\_for\_Content\_Classification\_in\_Film\_Censorship\_and\_Rating