# Legal Case Outcome Predictor Using AI

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***Abstract-*** ***The current judicial system is mostly dependent on man power and there is no automation introduced into the indian judicial system which may help in automating and predicting the legal outcomes of multiple cases according to the given conditions. To resolve these concerns , we developed an AI based Judicial Case Outcome Predictor which uses artificial and convolutional neural networks where inputs of information related to the case is updated into the system which analyses the particular law case and provides with the right outcome of the case and predicts whether it is a bailable or non bailable case. The system is built as a web application where access is restricted to everyone and only a few can access the system and use it in a legal and safe way. This system is our solution towards reducing a lot of human effort and making AI work for you in the judicial sector. We perform a performance analysis test and our system predicts the outcome of the case with around 70% accuracy and can cut down time for analysis of case by 60 percent.***

***Indexed Terms-*** ***AI based judicial case outcome predictor, Artificial Neural Networks, Convolutional Neural Networks. Judicial System***

## I. INTRODUCTION

Indian Judicial System is a very important legal body to address and manage various law and order issues around the country. High need of man power in this sector working as various advocates, lawyers etc… need a lot of time and effort to analyse a case which can be automated by a system and provide its outcome within a very small amount of time. So there is a high need of an AI system which can reduce human effort and do their work efficiently and accurately by reducing their effort and helping them to focus more on the case solving than to just analyse it. So in this research I introduce this AI system based on ANN, CNN which is an automated case outcome predictor which helps us to focus more on the accurate prediction of the case outcome and help us understand the case much easily.

## II. PROBLEM STATEMENT

Unfortunately, Our present law system is mostly man powered and most of the advocates and lawyers in the system find it difficult and time consuming in analysing a legal case.

So introducing a system which analyses and predicts outcomes of a legal case based on AI will save a lot of valuable time and effort.

In addition, traditional law system have a chance of error in analysis where as this system trained in such a way that it provides you with the outcome in a much accurate way.

However scalability of this system is much complex as the situations may become diverse and a bit complex too for the system in certain situations. But this system is still capable of analysing most of the simple standard cases.

In order to tackle these issues we worked on a AI based legal case outcome predictor system using AIML,ANN,CNN.

## III. PROPOSED SYSTEM

Proposed System
This leaves us with the only option of developing an automated system to predict outcomes of most of the legal cases which can reduce a lot of time for the judicial system and this system is trained to predict the type of punishment the case can be resulted with and either the suspect in this case is bailable or non-bailable.

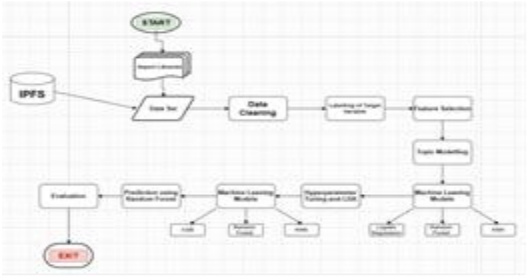
The AI driven platform works under a machine learning model developed under artificial and convolutional neural networks which considers multiple key factors and uses its dataset to predict the type of outcome of the system.

## IV. MODULAR DESIGN

To achieve scalability, maintainability and ease of integration with different components, the AI Legal Case Outcome Predictor has been built with a modular architecture. A real time, AI Powered Prediction System is delivered by each module working with it to deliver a specific function.

The DFD is also called as bubble chart. It is a simple graphical formalism that can be used to represent a system in terms of input data to the system, various processing carried out on this data, and the output data is generated by this system. The data flow diagram (DFD) is one of the most important modeling tools. It is used to model the system components. These components are the system process, the data used by the process, an external entity that interacts with the system and the information flows in the system. DFD shows how the information moves through the system and how it is modified by a series of transformations. It is a graphical technique that depicts information flow and the transformations that are applied as data moves from input to output. DFD is also known as bubble chart. A DFD may be used to represent a system at any level of abstraction. DFD may be partitioned into levels that represent increasing information flow and functional detail.

Following are the main modules and the purpose role:




Data Flow Diagram

This Module Contains Specific Modules:

*A. USER*

The User can register first. While registering he required a valid user email and mobile for further communications. Once the user register then admin can activate the user. Once admin activated the user then user can login into our system. User can upload the dataset based on our dataset column matched. For algorithm execution data must be in int or float format. Here we took Adacel Technologies Limited dataset for testing purpose. User can also add the new data for existing dataset based on our Django application. User can click the Data Preparations in the web page so that the data cleaning process will be starts. The cleaned data and its required graph will be displayed.

*B. ADMIN*

Admin can login with his login details. Admin can activate the registered users. Once he activate then only the user can login into our system. Admin can view Users and he can view overall data in the browser and he load the data. Admin can view the training data list and test data list. Admin can load the data and view forecast results.named “Heading 1”, “Heading 2”, “Heading 3”, and “Heading 4” are prescribed.

*C. MACHINE LEARNING*

Supreme Court cases, ensuring consistency and relevance before splitting it into 80% training and 20% testing subsets. We employed supervised learning techniques, such as Naive Bayes, Decision Tree, Support Vector Machine, and fine-tuned auto encoding models like BERT and ALBERT, to achieve comprehensive public sentiment analysis. This approach allowed us to rigorously analyze the experimental results, using contextual information to verify insights and achieve a 95% accuracy rate, demonstrating the practical applicability and transformative potential of AI in the legal domain.

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