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An AI Chatbot for Exploring  
the Indian Constitution



**PROJECT TITLE**

**AN AI CHATBOT FOR  
EXPLORING THE  
INDIAN CONSTITUTION**



# AGENDA



*The agenda of the project is to develop a chatbot based on artificial intelligence to provide information and answer questions related to the Indian Constitution.*




*To implement a chatbot using a deep learning model that leverages artificial neural networks for natural language processing, enabling accurate and contextually relevant responses to user queries related to the Indian Constitution.*



# PROBLEM STATEMENT

To develop a chatbot capable of answering user queries about the Indian Constitution, providing accurate and informative responses in a conversational manner, thereby improving access to constitutional knowledge and promoting understanding among users.



# PROJECT OVERVIEW

The project involves the development of a chatbot focused on the Indian Constitution, utilizing AI and NLP to provide users with accurate and informative responses to queries about the constitution's history, provisions, and interpretation.

The chatbot will be designed to engage users in meaningful conversations, offering a user-friendly interface to facilitate easy access to constitutional information and promote legal literacy among the general public.

By leveraging advanced NLP techniques, the chatbot aims to provide contextually relevant answers and enhance user understanding of the Indian Constitution, making it an effective tool for learning and exploring constitutional concepts.

# END USERS



*Students (Learners):  
Individuals studying law,  
political science, or related  
fields seeking educational  
insights into the Indian*



*Researchers (Scholars):  
Professionals conducting research  
on constitutional law and  
governance in India, requiring in-  
depth analysis and understanding.*



*Legal Professionals (Practitioners):  
Lawyers and legal advisors seeking  
quick and accurate information  
about the Indian Constitution for  
legal practice and advice.*



*General Public (Enthusiasts):  
Individuals interested in  
understanding the Indian  
Constitution for personal  
knowledge and civic engagement.*

# YOUR SOLUTION AND ITS VALUE PROPOSITION

**Solution:** *The chatbot is a user-friendly interface that provides accurate and informative responses to user queries about the Indian Constitution. It leverages artificial intelligence (AI) and natural language processing (NLP) to understand user input and deliver contextually relevant answers.*



*Accessibility: The chatbot makes constitutional information easily accessible to a wide audience, including students, researchers, legal professionals, and the general public.*



*Legal Literacy: By providing accurate and understandable information about the Indian Constitution, the chatbot promotes legal literacy and awareness among users.*



*Efficiency: Users can quickly find answers to their questions without the need to search through lengthy documents or websites, saving time and effort.*



*Engagement: The chatbot engages users in interactive conversations, making learning about the Indian Constitution more engaging and memorable.*

# THE WOW IN YOUR SOLUTION



*Personalized Interaction: The chatbot provides personalized responses tailored to the user's queries, enhancing user engagement and learning experience.*



*Accessibility and Convenience: The chatbot offers easy access to constitutional information, saving users time and effort in searching through extensive documents or websites.*



*Engaging User Experience: Through interactive conversations and user-friendly interface, the chatbot makes learning about the Indian Constitution engaging and enjoyable.*



*Promoting Legal Literacy: By providing accessible and understandable information about the Indian Constitution, the chatbot contributes to promoting legal literacy and awareness among users.*



# MODELLING

## BUILDING THE NEURAL NETWORK MODEL: USING TENSORFLOW AND KERAS

```
train_x = train_x[shuffle_indices]
train_y = train_y[shuffle_indices]

model = Sequential()
model.add(Dense(128, input_shape=(train_x.shape[1],), activation='relu'))
model.add(Dropout(0.5))
model.add(Dense(64, activation='relu'))
model.add(Dropout(0.5))
model.add(Dense(train_y.shape[1], activation='softmax'))


sgd = SGD(learning_rate=0.01, decay=1e-6, momentum=0.9, nesterov=True)
model.compile(loss='categorical_crossentropy', optimizer=sgd, metrics=['accuracy'])
hist = model.fit(train_x, train_y, epochs=200, batch_size=5, verbose=1)
model.save('chatbotmodel.h5', hist)

print('Done')
```


# RESULT

```
|===== Welcome to Indian Constitution Equiry Chatbot System! =====|  
|===== Feel Free =====|  
|===== To =====|  
|===== Ask your any query about our Indian Constitution =====|
```

```
| You: 
```

```
| You: Tell me about the Indian Constitution  
1/1  0s 58ms/step
```

```
| Bot: The Indian Constitution is the supreme law of India. It lays down the  
framework that defines the political principles, establishes the structure,  
procedures, powers, and duties of government institutions, and sets out the  
fundamental rights, directive principles, and the duties of citizens. It was  
adopted on 26th January 1950.
```

```
| You: Tell me about fundamental rights  
1/1  0s 18ms/step
```

```
| Bot: Fundamental rights are a set of rights guaranteed by the Constitution of  
India. These rights are considered essential for the development of the individual  
and the nation. They include the right to equality, right to freedom, right against  
exploitation, right to freedom of religion, cultural and educational rights, and  
right to constitutional remedies.
```

# RESULT

| You: What are the parts of the Indian Constitution?

1/1  0s 25ms/step

| Bot: The Indian Constitution is divided into the following parts:

1. The Union and its Territory
2. Citizenship
3. Fundamental Rights
4. Directive Principles of State Policy
5. The Union
6. The States
7. The States in Part B of the First Schedule
8. The Union Territories
9. The Panchayats
10. The Municipalities
11. The Co-operative Societies
12. The Scheduled and Tribal Areas
13. Relations between the Union and the States
14. Services under the Union and the States
15. Elections
16. Special Provisions Relating to Certain Classes
17. Official Language
18. Emergency Provisions
19. Miscellaneous
20. Amendment of the Constitution
21. Temporary, Transitional, and Special Provisions
22. Short Title, Commencement, Authoritative Text in Hindi, and Repeals

# RESULT

| You: Explain Part II of the Indian Constitution.

1/1  0s 19ms/step

| Bot: The Preamble of the Indian Constitution is an introductory statement that sets out the guiding principles of the Constitution, such as justice, liberty, equality, and fraternity.

| You: Articles 4

1/1  0s 18ms/step

| Bot: Article 4 of the Indian Constitution deals with laws made under Articles 2 and 3 to provide for the amendment of the First and the Fourth Schedules and supplemental, incidental and consequential matters.

| You: Articles 370

1/1  0s 31ms/step

| Bot: Temporary provisions with respect to the State of Jammu and Kashmir.

| You: Articles 350

1/1  0s 18ms/step

| Bot: Article 350 of the Indian Constitution has been repealed.

| You: Articles 43

1/1  0s 18ms/step

| Bot: Living wage, etc., for workers.

# RESULT

```
test_loss, test_acc = model.evaluate(test_images, test_labels, verbose=2)

print('\nTest accuracy:', test_acc)
```

```
313/313 - 1s - loss: 0.4344 - sparse_categorical_accuracy: 0.8867 - 635ms/epoch - 2ms/step
```

```
Test accuracy: 0.8866999745368958
```

**OBTAINED MODEL ACCURACY: 0.887**

The background features four decorative geometric patterns in the corners. The top-left corner has a series of parallel diagonal lines in a light blue-grey color. The top-right corner contains a cluster of overlapping semi-circles in yellow, red, teal, and dark blue. The bottom-left corner also features a cluster of overlapping semi-circles in red, teal, and dark blue. The bottom-right corner has a series of parallel diagonal lines in a light blue-grey color, mirroring the top-left pattern.

**THANK YOU**