



## Edu ChatGPT

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### ABSTRACT-

A web-based application called EduChat GPT by MERN stack makes use of the capabilities of GPT (Generative Pre-trained Transformer) technology to offer specialized and effective educational chat services. The MERN (MongoDB, Express, React, and Node.js) stack is used to build the application, which guarantees great performance and scalability. GPT-3, a cutting-edge natural language processing model, is used by EduChat GPT to deliver precise and pertinent answers to the questions. The model can comprehend and provide human-like responses since it has been pre-trained on a big corpus of text data. By examining user feedback, it also uses machine learning techniques to enhance its responses over time. It includes Text Summarizer, Paragraph Generator, Chat with Chatbot, JavaScript Converter. Students may ask questions, get answers, and have engaging dialogues with the chatbot powered by GPT thanks to the application's user-friendly UI. Text generator, JavaScript converter, and other educational themes are all covered by EduChat GPT.

*Keywords- MERN(MongoDB, Express.js, React.js, Node.js), Chatbot, Text , Paragraph, JavaScript.*

### I. INTRODUCTION

An innovative web-based application called EduChat GPT on MERNstack uses cutting-edge GPT (Generative Pre-trained Transformer) technology to offer students individualised educational chat services. EduChat GPT is built on the MERN stack (MongoDB, Express, React, and Node.js) and is intended to provide high performance, scalability, and an easy-to-use UI for a seamless user experience. GPT-3, an effective natural language processing model created by OpenAI, is used by the application to deliver precise and pertinent answers to student inquiries.

Machine learning methods are used by EduChat GPT to analyse user comments and enhance its responses over time. With its sophisticated natural language processing abilities, EduChat GPT can help with a variety of educational issues, including text conversion, paragraph conversion, javascript conversion, chat with AI, and more. In order to give users a personalised and effective learning experience, the programme is built to participate in conversations that are interactive with them. In order to reach a wider range of students, EduChat GPT also provides multilingual help. With the help of GPT-3's sophisticated text production tools, the programme can generate text and paragraphs, resulting in an immersive and interesting learning experience.

Apart from its chatbot functionality, EduChat GPT on MERN stack offers a variety of other features that enhance learning. For instance, it can generate writing and paragraphs on a certain subject, enabling students in better understanding and grasping difficult subjects. EduChat GPT on MERN stack is additionally designed to be user-friendly and accessible. Due to its user-friendly, intuitive user interface (UI), it is the ideal tool for students of all ages and academic levels. EduChat GPT's scalability on MERN stack is a another advantage. The program is built utilizing the MERN stack, which is recognized for its scalability and dependability. This ensures that EduChat GPT can handle a large number of users while still providing dependable and efficient service.

#### 1.1 Scope

The scope of the project should be broken-down and the system should be declared before advancing further.

The scope are as follows:

1. The design and construction of this application is aimed at building a web-based application and mobile application.
2. This system is developed using React.js and Node.js.
3. The database of this system implemented using MongoDB

## 1.2 Technologies Used

**HTML:** Hyper Text Markup Language, sometimes known as HTML, is the industry-standard markup language for texts intended to be viewed in a web browser. Technologies like Cascading Style Sheets and scripting languages like JavaScript can help.

**CSS:** Cascading Style Sheets is a language for creating style sheets that describe how a document written in a markup language like HTML should look. Layout, colour, and font may all be separated from text and presentation using CSS.

**JavaScript:** The JavaScript One of the foundational elements of the World Wide Web is JavaScript. It is used client side for web page behavior on over 97% of websites, frequently combining third-party libraries.

**React.js Front End:** The declarative JavaScript framework for building dynamic client-side apps in HTML, React.js, is the top tier of the MERN stack. With the use of straightforward Components and connections to data on your backend server, React enables you to create complicated interfaces that are then rendered as HTML.

**Express.js:** The Express.js server-side framework, which is incorporated into a Node.js server, is the next level below. It is true that Express.js is a "fast, unopinionated, minimalist web framework for Node.js," as it describes itself. Express.js offers robust models for handling HTTP requests and responses as well as URL routing (correlating an incoming URL with a server function).

**Mongo DB Database Tier:** If your app saves any data (user profiles, content, comments, uploads, events, etc.), you'll need a database that's as simple to use as React, Express, and Node.

## 1.3 Packages Used

1. Bcryptjs-The well-liked JavaScript library referred to as the bcryptjs package implements the bcrypt hashing mechanism. The Bcrypt technique is widely used for encrypting password effectively.
2. body-parser: The content-parser module is a well-liked frontend for Node.js applications on the web that enables you to parse the request body of incoming HTTP requests.
3. Colors: The colors package is a commonly used JavaScript library for text coloring and styling in terminal or command-line interface (CLI) programming.
4. Concurrently: The concurrently package is a software programme for managing multiple tasks consecutively in a single terminal window.
5. Cors: The middleware package cors enables Cross-Origin Resource Sharing (CORS) for Express and Node.js applications. CORS is a method that enables web browsers to send secure cross-origin HTTP requests.

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## II. LITERATURE REVIEW

As a result of the growth and improvement of the internet, more and more individuals are adopting network chat solutions to interact. Communication over long distances is made easier by applications like this. This programme must be real-time and cross-platform in order to be widely used by many people. Without the aid of a separate client programme from an outside source, visual interactions can be made easily using the online real-time messaging application. The app in question was developed using the programming languages React.js, Node.js with the Express framework, and MongoDB data. Servers are used to transmit and receive text messages, and connections that are point-to-point among servers make it easier to send data.

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## III. METHODOLOGY

In order to determine the ultimate goals of our project and what will be achieved over time, we will first complete the requirement and analysis phase of the development cycle. After that, we'll go on to the cycle's designing phase, where we'll choose its design and appearance. After that, we'll go in-depth with the implementation stage, which includes front- and back-end development. With the aid of JavaScript, we will first attempt to create a minimal viable product, which will serve as the framework for our working project. After that, we will add more product backlogs and attempt to work on their development over their respective sprints. If a few backlog items cannot be finished in the specified sprint, we will endeavor to complete them in the following sprint. We will just use React JS for the front-end, which will display the information on the browser, while developing the back-end of the project.

The database component will be generated simultaneously with the back-end development using MongoDB. We will fully begin front-end development if the project's back end becomes complex. It will be created using JavaScript, HTML, CSS, and ReactJS. When everything is finished, we will conduct some tests as part of the project's testing phase and then manage the documentation we've maintained up with during the entire implementation and development period.

**IV. RELATED WORK**

In this project we will be using MERN stack application with that we will designing this clone. Edu Chat is a large language model developed by using services of Open AI that uses state-of-the-art machine learning algorithms to understand and respond to natural language input. It is designed to engage in human-like conversation and can be used for a variety of purposes, including Text Generation , Paragraph Generation, JS Converter, Chat with CHATBOT. The potential applications for EduChat are numerous and diverse. For example, it can be used to provide customer support for businesses, answer questions on educational platforms, and even generate creative writing.



Fig 1. Dashboard

The user experience of a page on the internet is referred to as "web layout," since design is the visible world's universal language. Designing something with content is the primary objective.

The design of websites has evolved significantly over the years, moving from the first internet generation's simple text-based website designs that displayed content to the second generation's graphics-heavy, vibrantly coloured web pages that were used to create memorable web pages, and finally to the modern style that is straightforward and user-friendly. This change in focus has been made possible by various technological advancements and trends. Continually current and refreshed material ought to be present on all web pages.



Fig 2 Sign Up Page.



Fig 3 Sign In Page.



Fig 4 Summarize Text.



Fig 5 Paragraph Generator.



Fig 6 Ask ChatBot.



Fig 7 JavaScript Converter.

After creating the database schema, Express.js may be used to generate the client-side APIs. The structure of the APIs will follow the RESTful rules, offering the frontend a mechanism to communicate with the server and receive information from the database system.

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#### IV. CONCLUSION

In conclusion, the EduChat GPT chatbot developed by the MERN stack group is a genuinely innovative and practical educational tool. It uses OpenAI's GPT-3 technology to provide customized and accurate answers to student questions. Great performance, flexibility, and an easy user interface are all ensured by the MERN architecture upon which the app is built.

EduChat GPT specializes at natural language processing, which enables it to carry on discussions that are similar to humans and provide relevant educational content on a variety of themes. It may generate words and sentences, making it an excellent tool for learners seeking in-depth explanations and clarifications.

With the aid of machine learning algorithms, EduChat GPT may modify its responses in response to user input, which over time will lead to a better learning environment. By being able to identify the needs of particular pupils and provide individualized responses, the chatbot's value as a teaching tool is greatly boosted. A wider spectrum of students may be accommodated by EduChat GPT thanks to its multilingual support, increasing access to education. The MERN stack's platform also offers a reliable and scalable foundation, enabling the application to manage a sizable user base and deliver dependable service.

Innovative technology can be used in innovative ways to provide customized and successful educational help, as demonstrated by MERN stack's Edu Chat GPT. It has the power to significantly enhance students' learning by providing them with access to stimulating conversations and insightful data on a variety of academic areas.

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