

## **Problem statement 3:**

AI Study Assistant for Competitive Exam Preparation

To develop an AI-powered web application that serves as a personalized learning companion for students, using LLMs like Gemini, LLaMA, or ChatGPT, to provide step-by-step solutions, explanations, and interactive support in subjects like Math, Physics, and Chemistry, with support for text and image inputs in multiple languages

# The Problem: Exam Prep is Tough!

## **Complex Concepts**

Students struggle with advanced computer science concepts like data structures and algorithms.

## **Lack of Guidance**

Many lack personalized support. Generic materials don't meet individual needs.

## **Competitive Demands**

Competitive exams demand deep understanding and strong problemsolving skills.

# Solution: GATEGuru

## Web Based Interface

 Provides access from any device provided a stable internet connection

## AI assisted learning

 An LLM powered using Gemini and GraphRAG assistes the user at all times

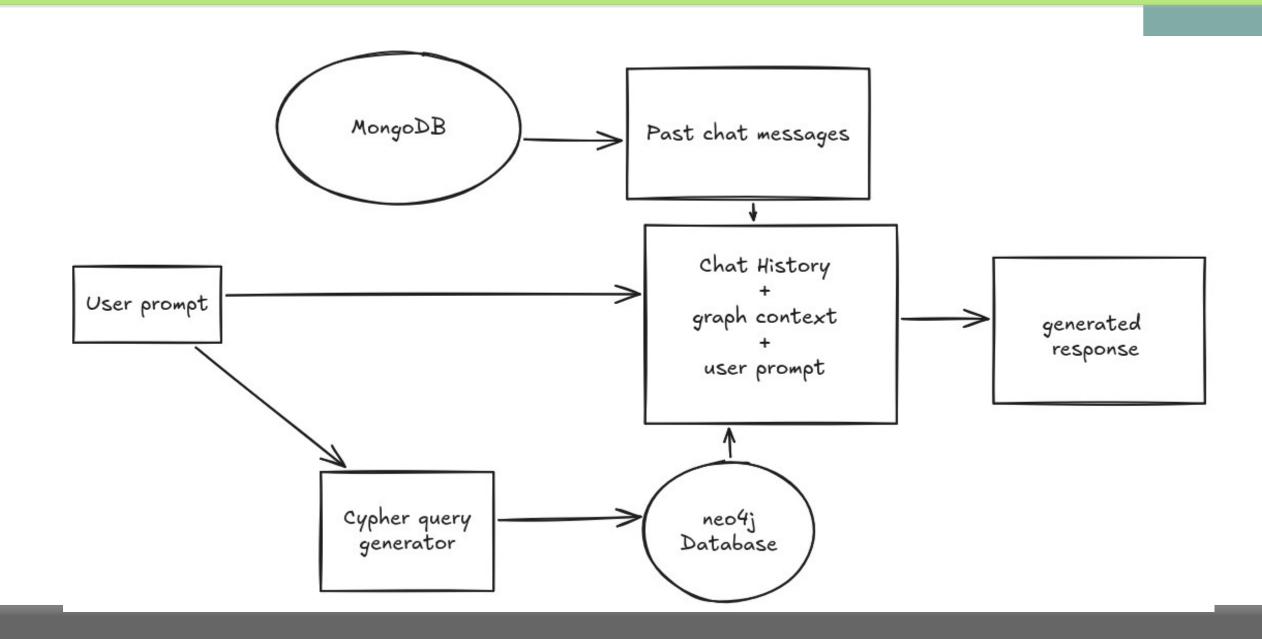
## Personalized Learning

 Tests are presonalised to the users skill level.

## Progress Tracking

- Live news about Gate
- To Do list to manage self learning

# **How it Works: AI Under the Hood**



# **Key Features: Personalized Learning**

### **Step-by-Step Solutions**

Complex problems are broken down logically by using prompt engineering.

#### **Concept Wise Learning**

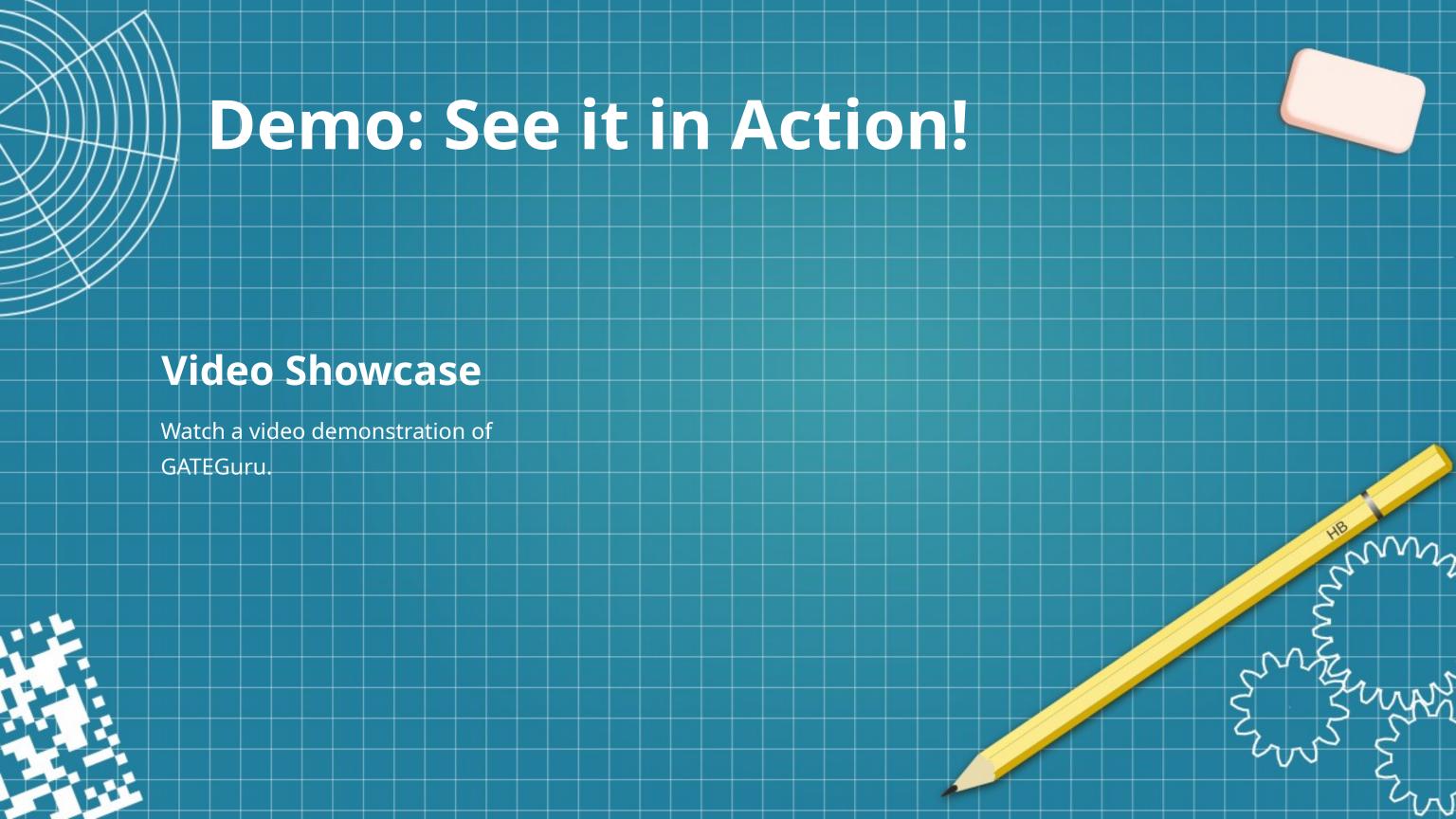
Access to Concept wise questions with a AI guru to help you it you get stuck

### **Interactive Support**

Includes Q&A using Context windows and GraphRAG.

#### **Personalized Feedback**

Daily and Weekly questions are adjusted based of users results to assure constant improvement



# Conclusion: The Future of CS Learning

### **AI Assistant**

Personalized, effective, and accessible learning.

## **Transform Education**

Potential to revolutionize CS education.

## **Collaborate**

Seeking feedback and collaborators to expand impact.