



StudyMate: Your AI Academic Assistant

Empowering students and academic staff to find precise answers within their course materials, StudyMate revolutionises the learning experience.

The Challenge: Navigating Academic Information Overload

Students often spend excessive time sifting through vast amounts of academic content: bulky textbooks, disorganised lecture notes, dense research papers, or even brief syllabus outlines.

Traditional keyword searches frequently miss crucial context, turning study sessions into inefficient, frustrating experiences. Academics need precise answers derived exclusively from specified materials.

Introducing StudyMate: AI-Powered Academic Q&A

StudyMate is an intelligent academic assistant designed to streamline the study process. Students can upload a variety of study materials—including PDFs, personal lecture notes, presentation slides, or even just a syllabus.

The system then allows them to ask natural-language questions, providing direct, contextual answers with clear references pulled exclusively from the uploaded content. This ensures every answer is strictly grounded in their own materials.



Key Features: Unlocking Knowledge with Precision



Conversational Q&A

Students can interact in plain language, eliminating the need for manual searching through documents. Answers are strictly grounded in their uploaded content.



Accurate Text Extraction

StudyMate handles diverse formats (PDFs, notes, syllabus text) and preprocesses content for precise retrieval, ensuring every detail is captured.



Semantic Search

Content is converted into embeddings for meaning-based search, utilising FAISS for rapid retrieval of the most relevant sections, going beyond keywords.



AI-Powered Answer Generation

Retrieved chunks are fed into a powerful LLM (IBM Watsonx Mixtral-8x7B-Instruct) to generate contextual, referenced answers with minimal 'hallucination'.

Why StudyMate Works: Efficiency Meets Accuracy



Speeds Up Learning

No more wasted time flipping through hundreds of pages. Get answers instantly and focus on understanding, not searching.



Flexible Input

Works seamlessly with textbooks, lecture notes, academic papers, or even just a syllabus, adapting to diverse study habits.



Grounded Answers

Every response links directly back to the student's own materials, fostering trust and ensuring academic integrity.



Student-Focused Design

Simple, intuitive, conversational interface built for exam-oriented learning and deeper comprehension.

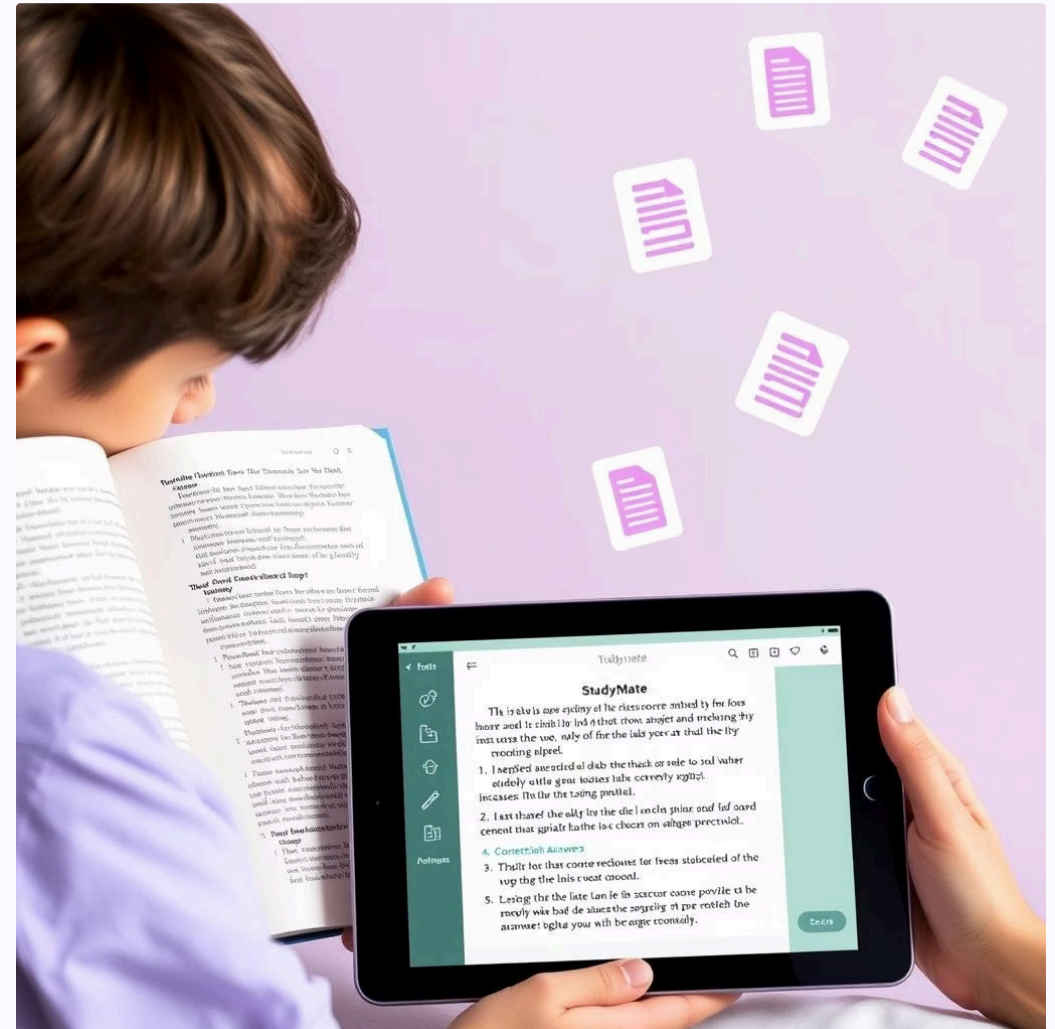
StudyMate's Uniqueness: Beyond Generic AI

Multi-Format Support

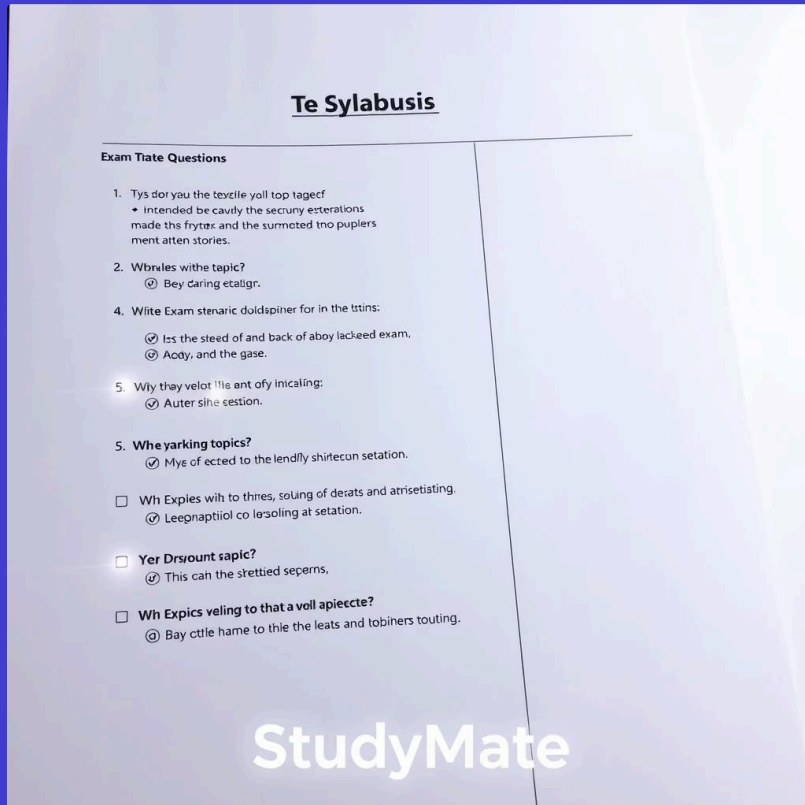
Unlike most tools that only handle PDFs, StudyMate supports PDFs, lecture notes, slides, and raw syllabus text, offering unparalleled flexibility.

Grounded Answers with References

Every response points back to the exact source (page/slide/section), preventing 'hallucination' and building trust crucial for exam preparation.



Syllabus-First Design: Curriculum-Aligned AI



Students can upload just their syllabus, and StudyMate intelligently organises content to provide highly relevant Q&A aligned with their curriculum.

This isn't generic AI; it's precision-engineered, curriculum-aligned AI designed to help students focus on what matters most for their assessments.

Session-Aware Personalisation



Tracks Previous Queries

StudyMate remembers what the student has asked before, building a continuous learning context.



Builds Study Trail

The system can track "topics covered vs. pending", helping students visualise their progress and identify gaps in their understanding.



More Than One-Shot Q&A

This dynamic feature elevates StudyMate beyond simple question-and-answer, providing a comprehensive and evolving study companion.

Robust, Hackathon-Ready Stack

Unlike mere "ChatGPT wrappers", StudyMate's modular and owned stack ensures scalability, flexibility, and reliability.

- **React:** Student-friendly, intuitive User Interface.
- **Node.js + SQL:** Scalable and robust backend infrastructure.
- **FAISS + Embeddings:** Efficient retrieval layer for meaning-based search.(BAAI/bge-large-en-v1.5)
- **Hugging Face Transformer:** Powerful LLM engine for highly accurate answer generation.(google/gemma-2b-it)
- **No Vendor Lock-in:** The architecture allows for easy model swaps and seamless scaling, future-proofing the solution.

"StudyMate isn't just a PDF chatbot — it's a syllabus-driven, reference-grounded academic assistant that works across notes, slides, and textbooks, ensuring exam-relevant answers every time."

Empowering students to learn smarter, not just harder.