

# INTELLEXA

S M A R T   A I   S T U D Y   A S S I S T A N T

Turn your study material into summaries, flashcards, and quizzes in seconds.

# INTELLEXA

- Our application is called Intellexa
- The name stands for “Intelligent Learning Accelerator”
- It helps students learn smarter and faster using AI

# GROUP DETAILS

**Atharva Raibagi (A006)**

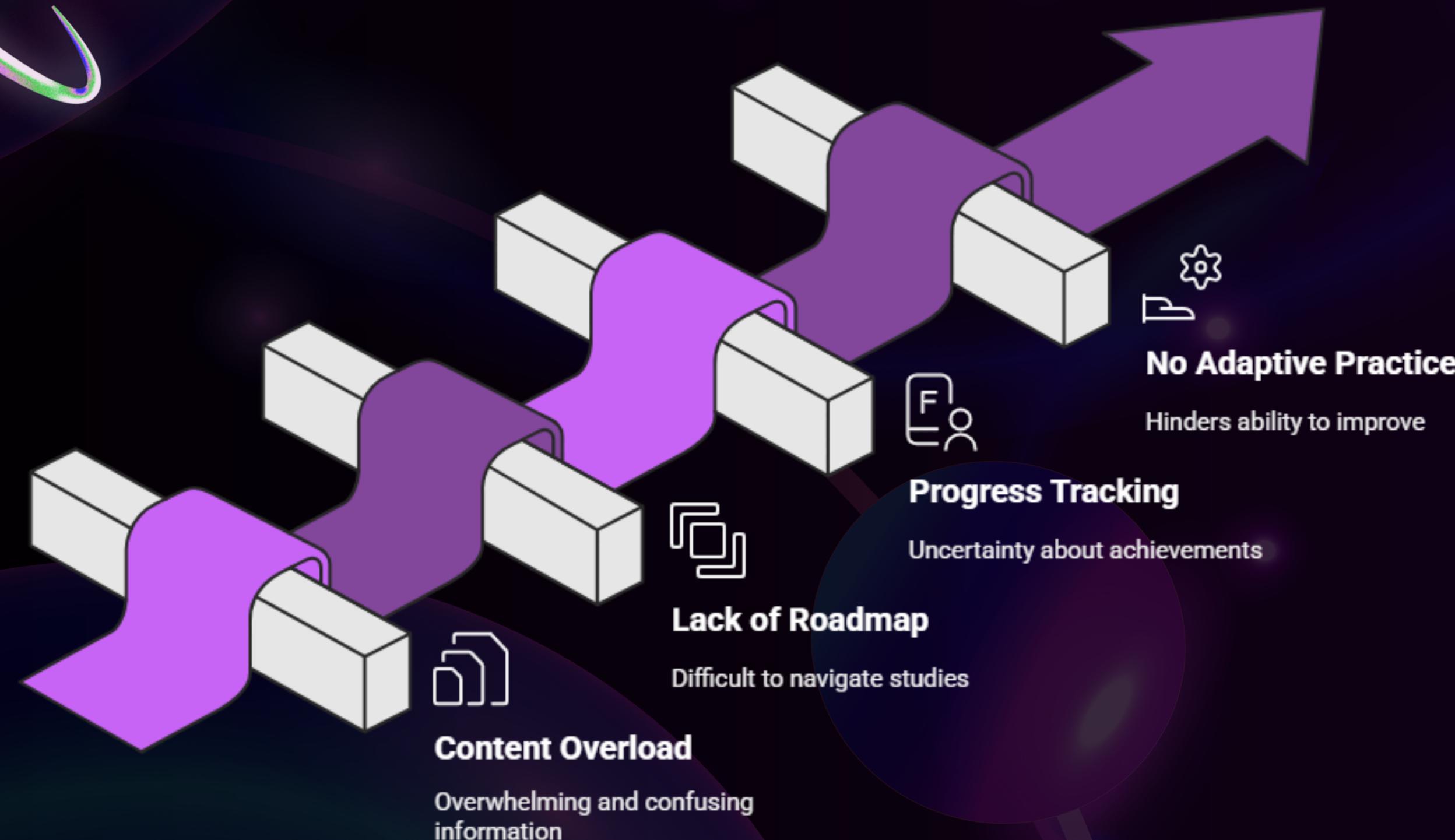
**Manav Patel (A031)**

**Kshitij Panchal (A043)**

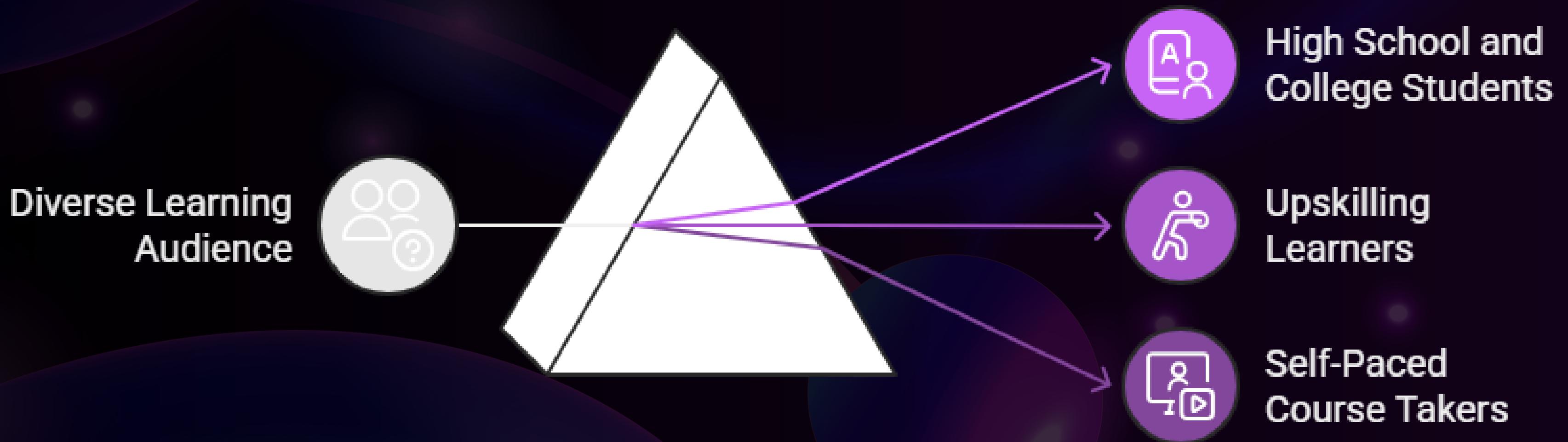
**Mahi Soni (A045)**

**Mentor - Yogesh Naik**

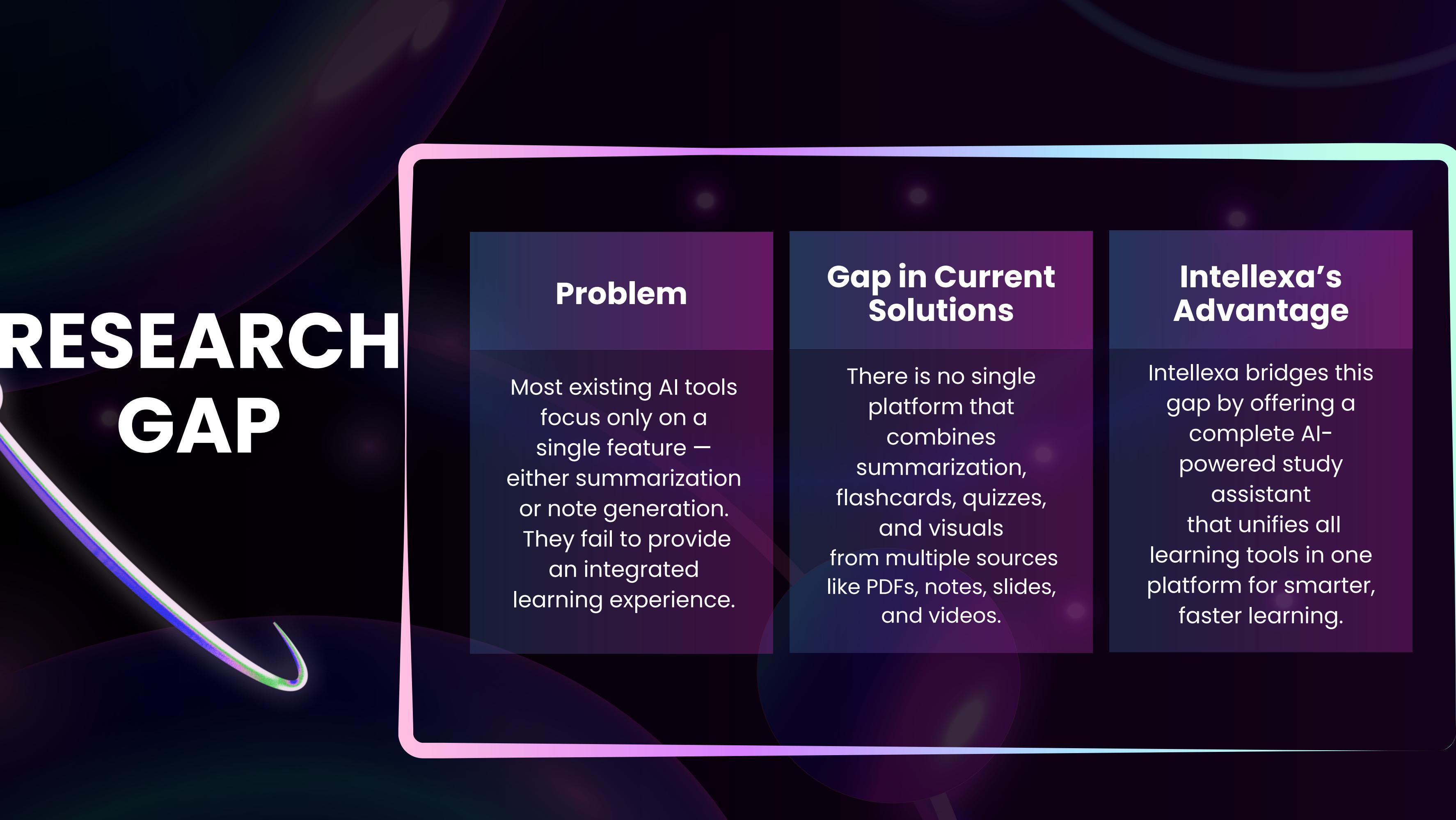
# NEED FOR APPLICATION



# TARGET AUDIENCE



# RESEARCH GAP



# RESEARCH PAPERS REFERRED

## Referenced works on:

- Automatic text summarization using LLMs (Google Gemini, OpenAI)
- AI-based adaptive learning systems
- Flashcard generation via NLP question-answering models
- Comparative finding: Most apps are single-function; Intellexa is multi-modal

# EXISTING SOLUTIONS & GAP ANALYSIS

Feature	Coursera	Khan Academy	Duolingo	Intellexa
Structured courses	✓	✓	✗	✓
Gamification	✗	✗	✓	✓
Personalized path	✓	Limited	✓ (language only)	✓ (topics + quizzes)
Progress analytics	✓	✓	✓	✓
Quiz-based learning	✓	✓	✓	✓

# TECHSTACK

## Frontend

### Tech Role Rationale



HTML5 Structure & content display Standard for web UI, accessible and lightweight



CSS3 Styling & layout Makes UI responsive and modern



JavaScript Client-side logic Enables interactivity and dynamic learning features

## AI & Automation Tools

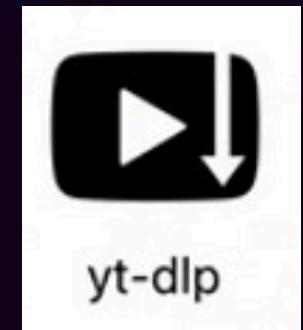
### Tech Role Rationale



Google Gemini AI-driven personalized learning & explanation Highly capable LLM for generating study content & answers



Whisper Speech-to-text for videos/lectures Converts lectures to notes accurately, multilingual support



yt-dlp Downloading educational media Enables extraction of YouTube learning videos for study resources

# TECHSTACK

## Backend & Server Tech Role Rationale



Flask Backend framework  
Lightweight, fast,  
ideal for API-driven  
learning systems

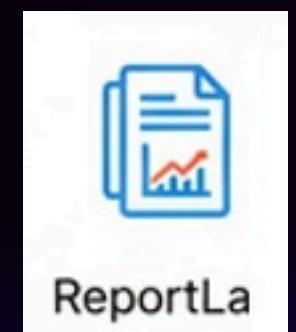


PyPDF PDF text extraction Used for reading study PDFs & generating notes

## Document Processing & Generation Tech Role Rationale



python-pptx Auto-generate learning slides Converts learning content into PPTs for revision



ReportLab Create structured PDF reports Generates study summaries & learning progress sheets

## Database & Environment Tech Role Rationale

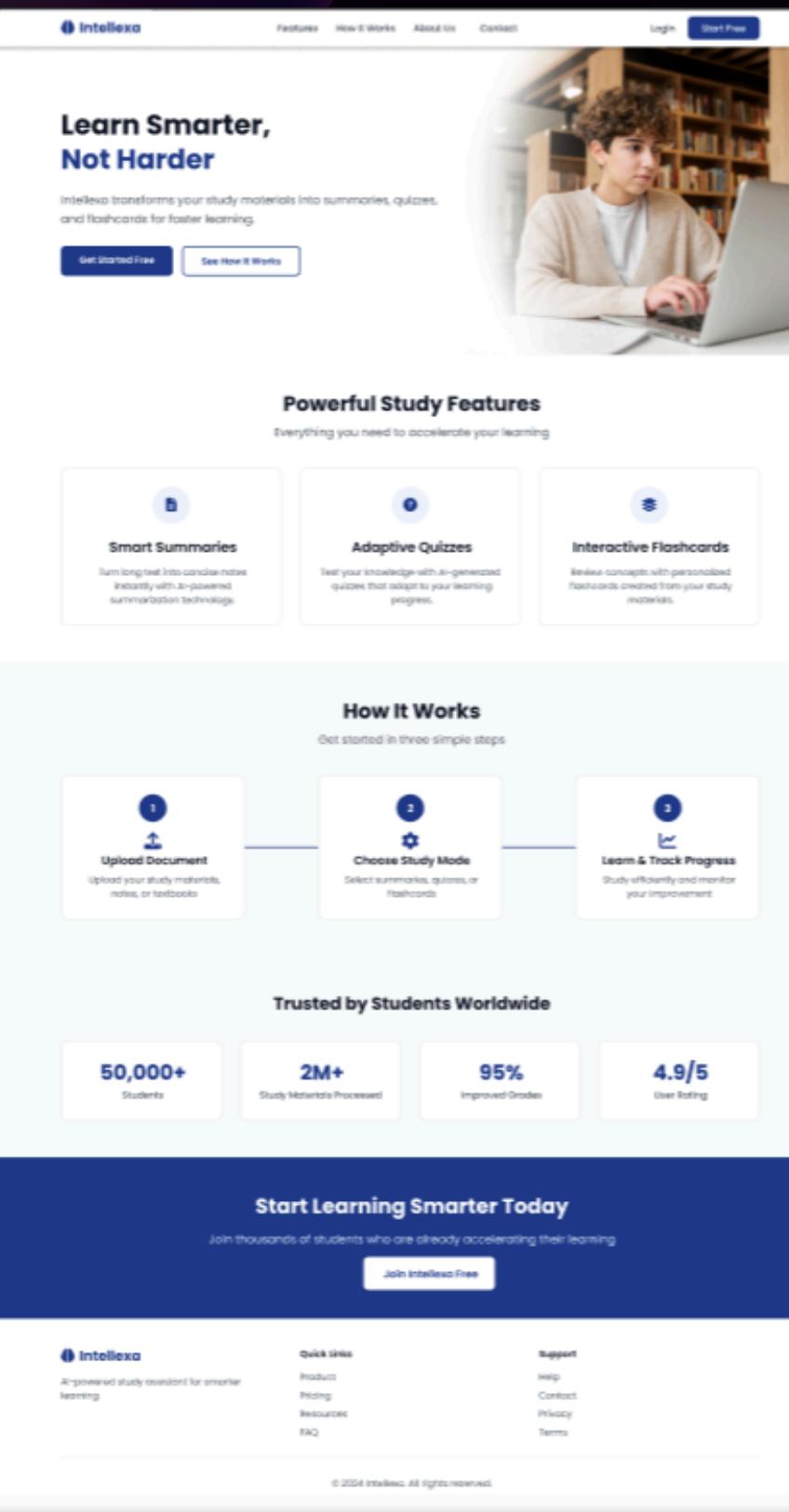


SQLite Local storage for users, notes & progress Lightweight DB, ideal for scalable prototypes

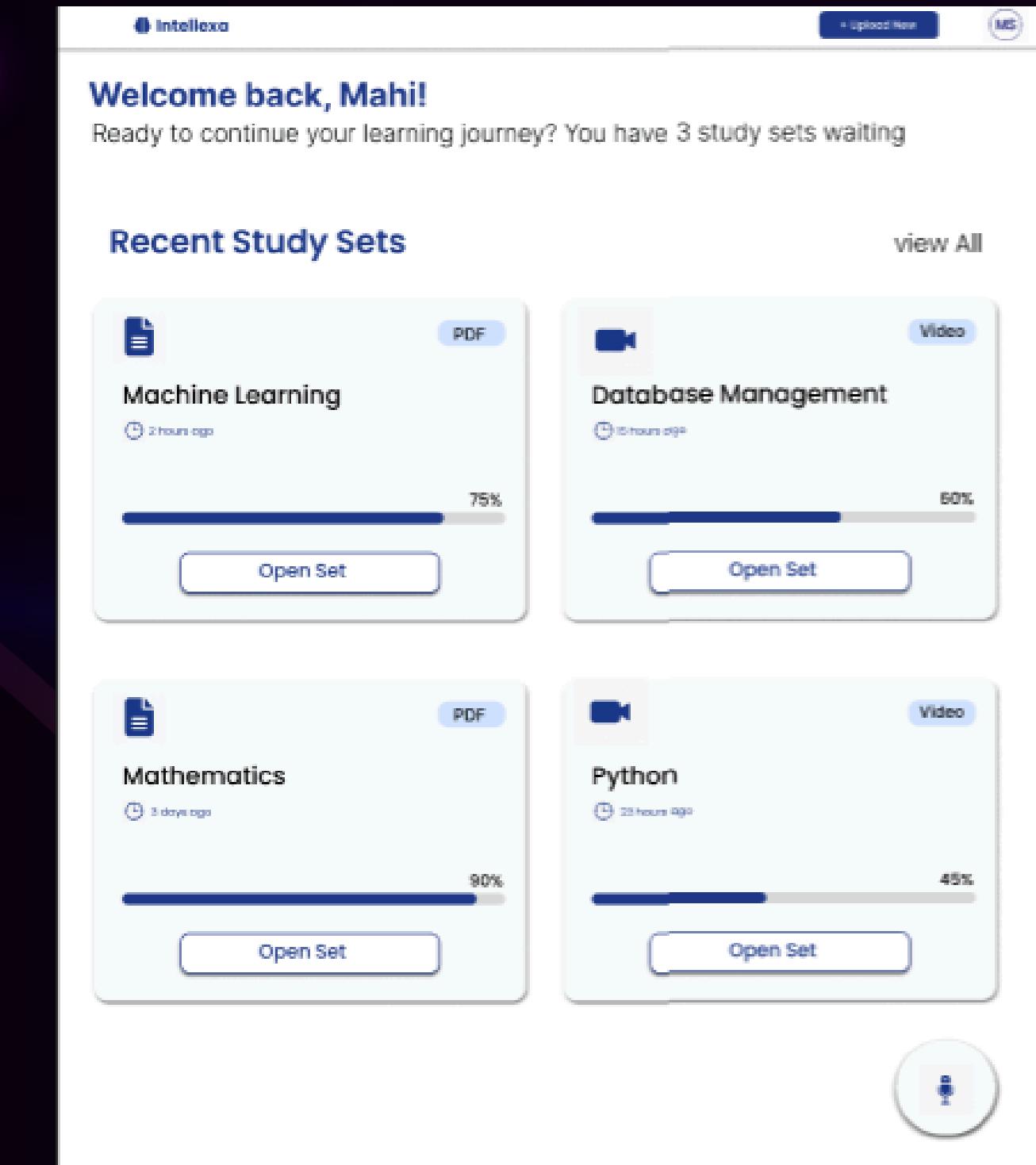


.ENV SECURING API KEYS & CONFIG PROTECTS SENSITIVE CREDENTIALS IN DEVELOPMENT

# WIREFRAME



The homepage wireframe for Intellexa features a dark header with the brand logo and navigation links for Features, How It Works, About Us, Contact, Login, and Start Free. A large hero section on the left highlights "Learn Smarter, Not Harder" with a sub-copy about transforming study materials into summaries, quizzes, and flashcards. It includes a "Get Started Free" button and a "See How It Works" link. Below this, the "Powerful Study Features" section lists Smart Summaries, Adaptive Quizzes, and Interactive Flashcards with their respective descriptions. The "How It Works" section shows a three-step process: Upload Document, Choose Study Mode, and Learn & Track Progress. The footer contains social media icons and links to Quick Links (Product, Pricing, Resources, FAQ) and Support (Help, Contact, Privacy, Terms).



The dashboard wireframe for Intellexa shows a "Welcome back, Mahi!" message and a notification for 3 study sets. It features a "Recent Study Sets" section with four items: Machine Learning (PDF, 75%, last updated 2 hours ago), Database Management (Video, 60%, last updated 15 hours ago), Mathematics (PDF, 90%, last updated 3 days ago), and Python (Video, 45%, last updated 23 hours ago). Each item has an "Open Set" button. A "view All" link is located above the fourth item. A microphone icon is in the bottom right corner.

# WIREFRAME

## My Study Library

**Supervised Learning**  
Machine Learning

Machine Learning (ML) is a field of Artificial Intelligence that focuses on developing algorithms and models that allow computers to learn from data and improve their performance without being explicitly programmed. Instead of.....

24 flashcards      15 questions

[Open Material](#)

**Unsupervised Learning**  
Machine Learning

Unsupervised learning is a type of Machine Learning where models are trained on unlabeled data, meaning the system is not given predefined outputs. Instead, it tries to find hidden patterns, structures, or groupings within.....

30 flashcards      18 questions

[Open Material](#)

**Reinforcement Learning**  
Machine Learning

Reinforcement learning (RL) is a type of Machine Learning where an agent learns by interacting with an environment and making decisions to maximize rewards. Instead of using labeled data, the agent learns through trial and.....

21 flashcards      10 questions

[Open Material](#)

## Supervised Learning

PDF    Machine Learning    2 days ago

**Learning Mode**

EUS (Explain like I am 5 years old)  
Standard Explanation  
Technical Explanation  
Flowchart Explanation

**AI-Generated Summary**

Supervised learning is a type of Machine Learning in which models are trained on labeled data, meaning each input is paired with a correct output. The algorithm learns the mapping between inputs and outputs so it can make accurate predictions on new data. It is mainly used for classification tasks, such as identifying spam emails, and regression tasks, such as predicting house prices. This approach is widely used because of its effectiveness in solving real-world problems.

EUS- Simple Explanation      Generate Summary

**Generate Flashcards**  
Create AI-Powered Flashcards for active recall and spaced repetition

[Start Flashcards >](#)

**Start Quiz**  
Test your knowledge with adaptive questions that identify gaps

[Start Quiz >](#)

# WIREFRAME

← Exit Quiz      **Supervised Learning**      Question 1 of 2      0.59

Question 1

What type of data does supervised learning use?

- Only input data
- Only output data
- Both input and Output data
- No data at all

Select an answer to continue      Next >

← Back      **Supervised Learning**      Question 2 of 2      0.58

Question 2

Which of the following is NOT an example of supervised learning?

- Spam email detection
- House price prediction
- Customer segmentation
- Disease diagnosis

< Previous      Select an answer to continue      Next >

←      + Upload New      MS



**Quiz Completed !**

SCORE : **2/2**

# WIREFRAME

Intellexa + Upload New MS

← Back to Material Supervised Learning Card 1 of 5

What type of data does supervised learning use?  
Click to reveal answer

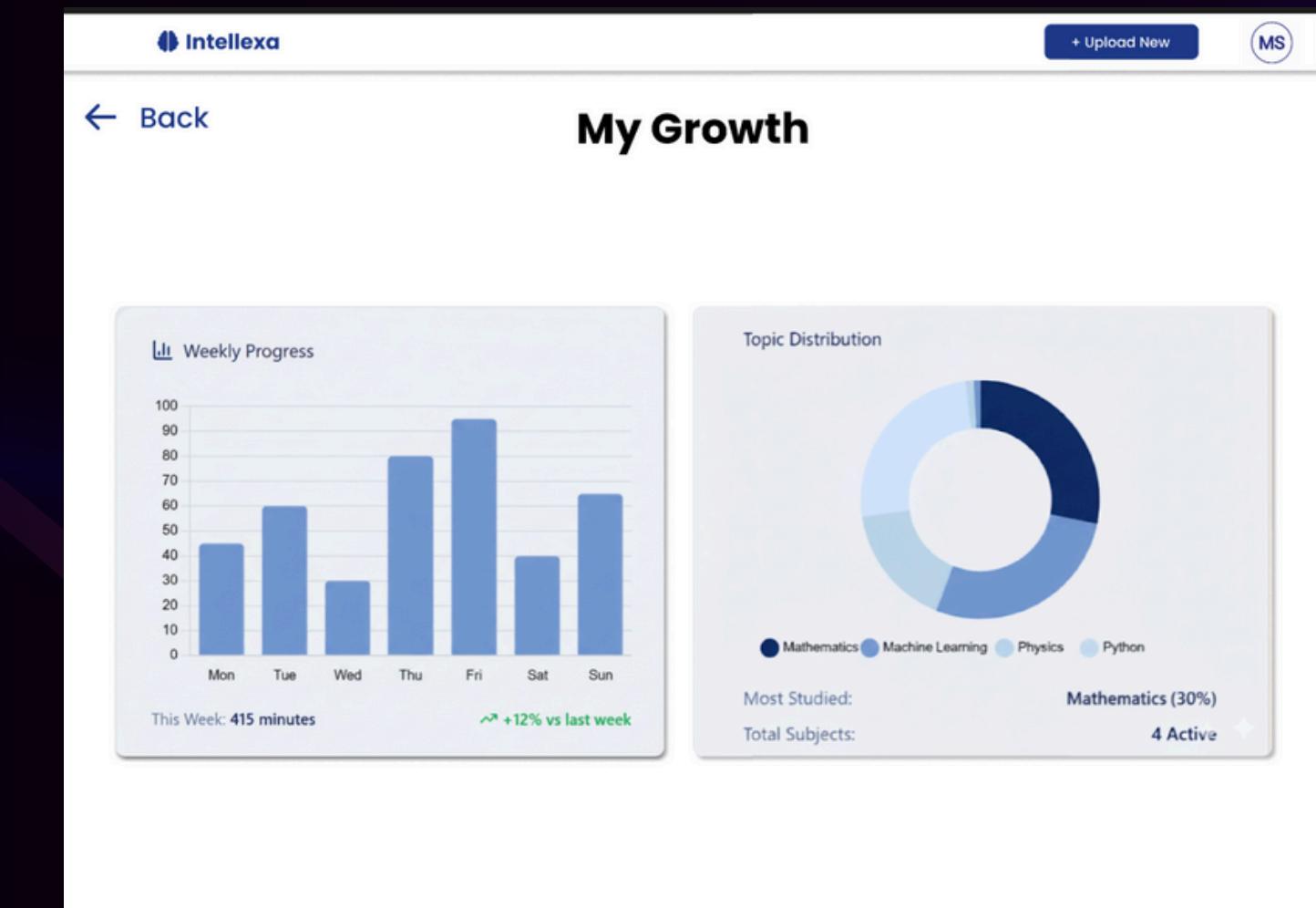
Show answer Next >

Intellexa + Upload New MS

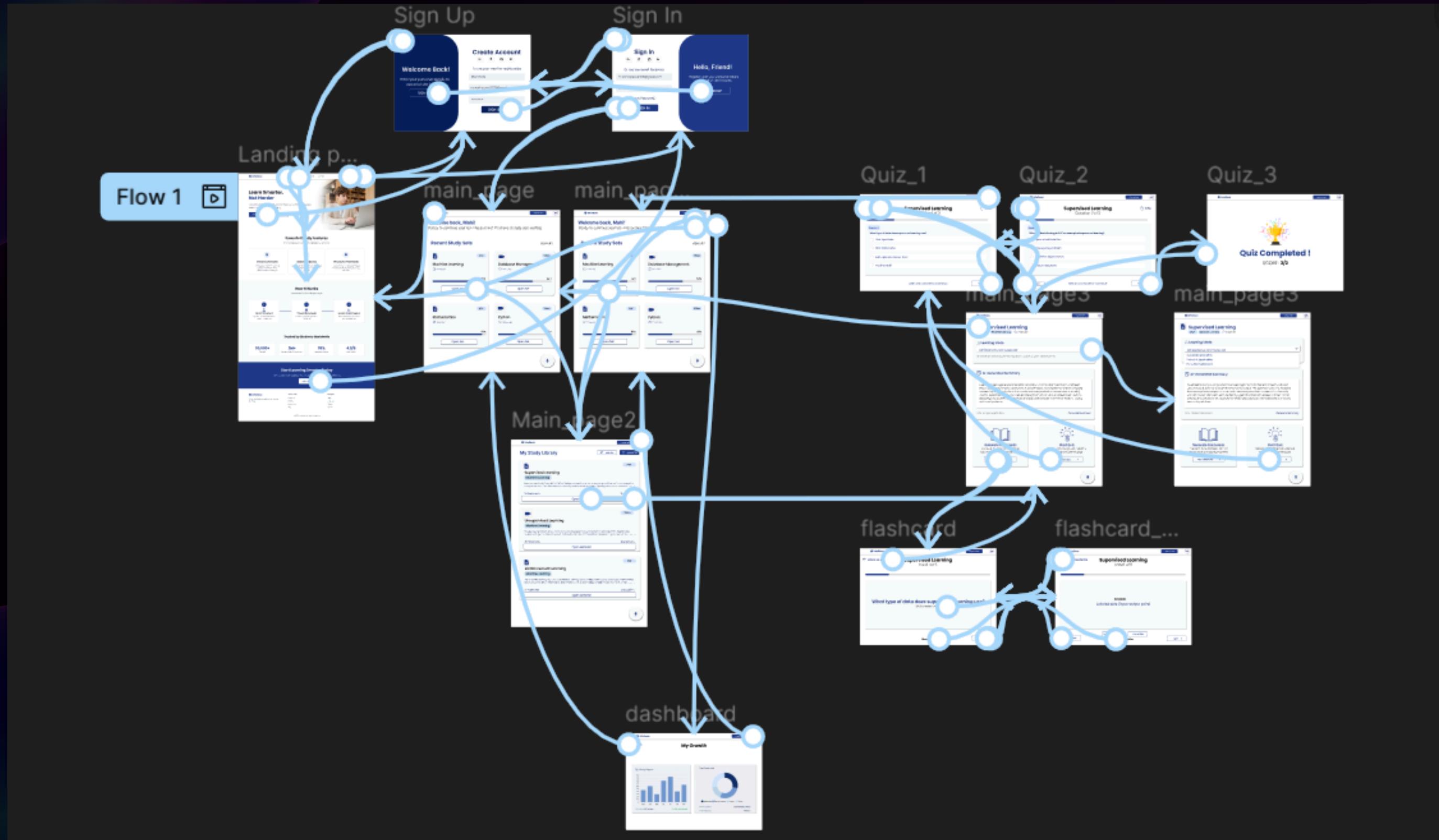
← Back to Material Supervised Learning Card 1 of 5

Answer  
Labeled data (input-output pairs)

Need More Practice I know This Previous Show Question Next >



# WIREFRAME : CONNECTIONS



# LANDING PAGE

 Intellexa

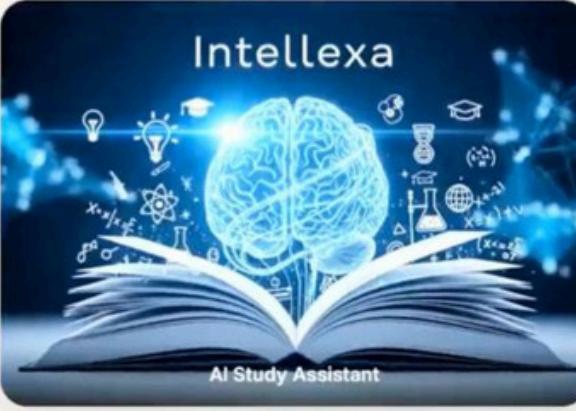
Home About us Contact SIGN UP SIGN IN

## Learn smarter, Not Harder

### Your Personal Study AI-partner

Upload your notes or lectures and let Intellexa turn them into summaries, flashcards, and quizzes so you can prepare faster and retain more, anytime, anywhere.

[Try Intellexa](#) [Learn More](#)



 Intellexa

Home About us Contact SIGN UP SIGN IN

## Transform Your Learning Experience

Everything you need to accelerate your learning and achieve better results



### Smart Summaries

AI-powered summaries that extract key concepts from any document or video



### Interactive Flashcards

Personalized flashcards that adjust difficulty based on your performance



### Adaptive Quizzes

Custom quizzes that identify knowledge gaps and reinforce learning

# LANDING PAGE

The screenshot shows the Intellexa landing page with a white header featuring the logo and navigation links: Home, About us, Contact, SIGN UP, and SIGN IN. Below the header, a section titled "How it Works" is displayed with the subtext "Get started in three simple steps and transform your study routine". Three circular icons represent the steps: "Upload Document" (up arrow), "Choose Study Mode" (gear), and "Learn & Progress" (circle with spiral). Each icon has a brief description below it.

**How it Works**

Get started in three simple steps and transform your study routine

**Upload Document**  
Upload PDFs, paste links, or add any study material to get started

**Choose Study Mode**  
Select from summaries, flashcards, quizzes, or voice chat options

**Learn & Progress**  
Study with AI-powered tools and track your improvement over time

The screenshot shows the Intellexa landing page with a dark blue header featuring the logo and navigation links: Home, About us, Contact, SIGN UP, and SIGN IN. Below the header, a large call-to-action button with the text "Join Thousands of Successful Students" is centered. A subtext below the button states "Students worldwide are achieving better grades with Intellexa's AI-powered study tools". To the right of the button, three statistics are listed: "50,000+ Active Students", "2M+ Documents Processed", and "95% Improved Grades". Below these stats is a review snippet with a 5-star rating and "4.9/5 from 10,000+ reviews". At the bottom, a large call-to-action button with the text "Start Learning Today" is shown.

**Join Thousands of Successful Students**

Students worldwide are achieving better grades with Intellexa's AI-powered study tools

**50,000+**  
Active Students

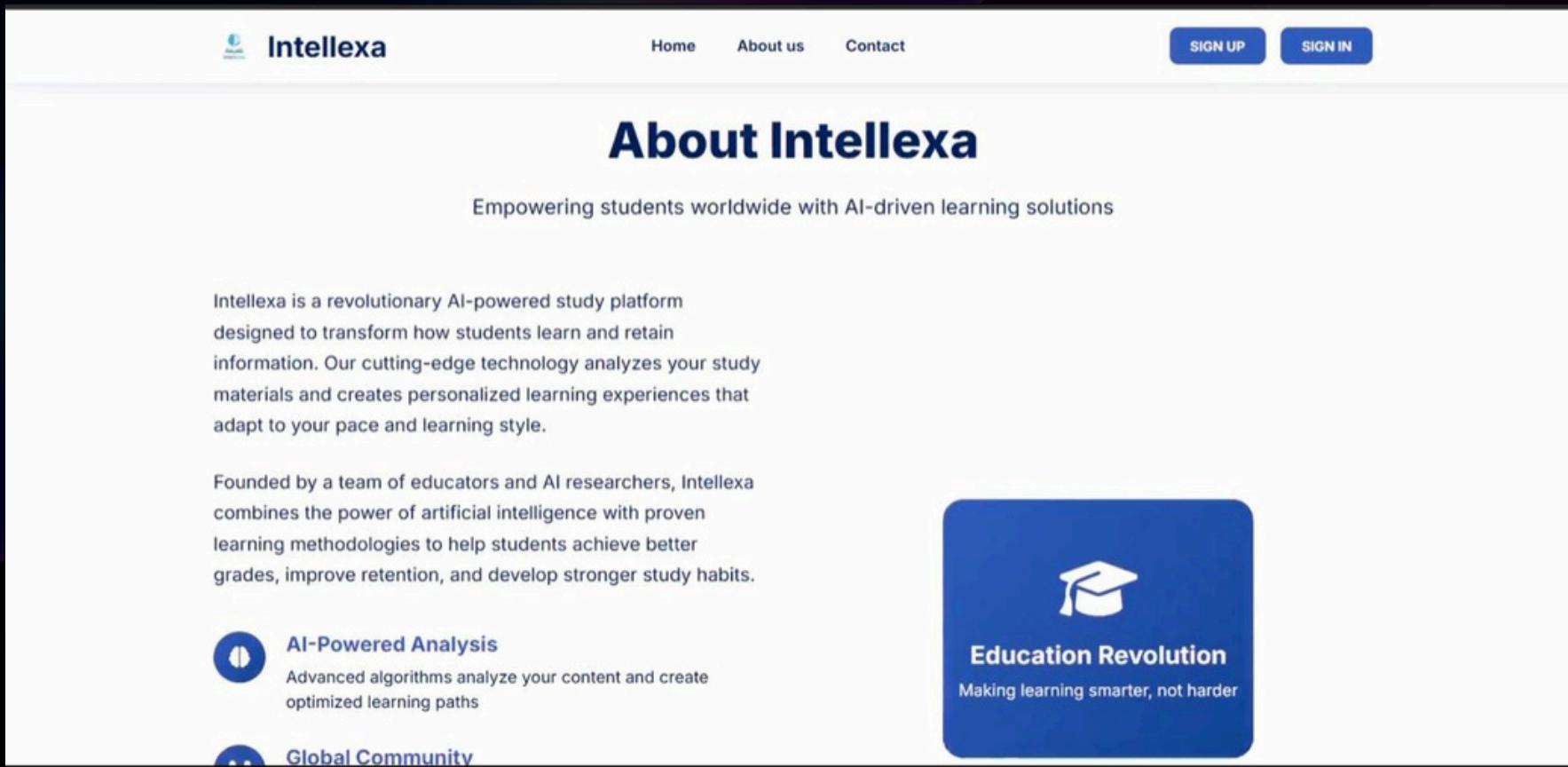
**2M+**  
Documents Processed

**95%**  
Improved Grades

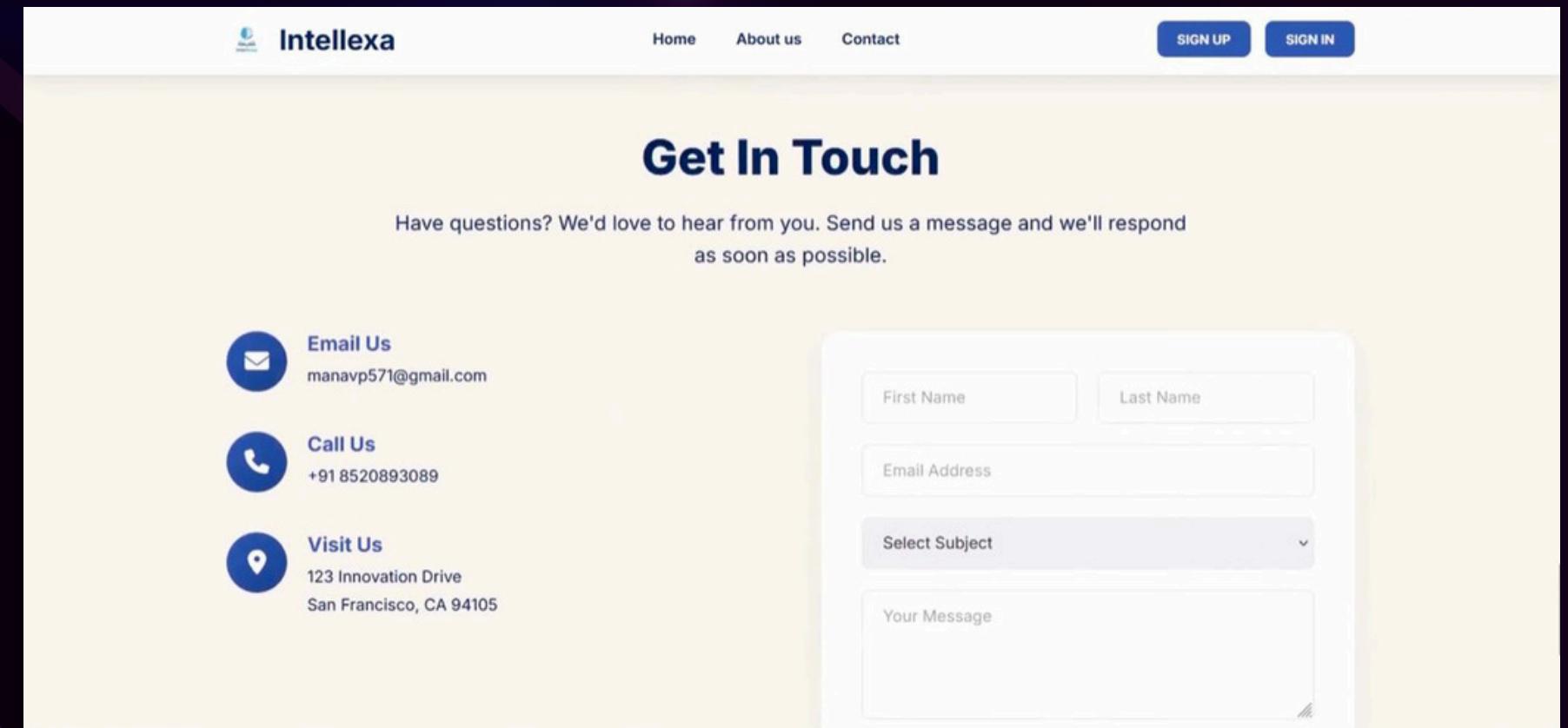
★★★★★  
4.9/5 from 10,000+ reviews

Start Learning Today

# ABOUT US & CONTACT PAGE



The screenshot shows the 'About Us' section of the Intellexa website. At the top, there's a navigation bar with links for 'Home', 'About us', and 'Contact', along with 'SIGN UP' and 'SIGN IN' buttons. The main heading is 'About Intellexa' with the subtitle 'Empowering students worldwide with AI-driven learning solutions'. Below this, there's a paragraph about the platform's mission to transform learning through AI-powered analysis and personalized experiences. To the right, there's a blue button labeled 'Education Revolution' with the tagline 'Making learning smarter, not harder'. At the bottom left, there are two sections: 'AI-Powered Analysis' (describing how algorithms create optimized paths) and 'Global Community'.



The screenshot shows the 'Get In Touch' section of the Intellexa website. It features a heading 'Get In Touch' and a message encouraging users to send messages. Below this, there are three contact options: 'Email Us' (with the address manavp571@gmail.com), 'Call Us' (+91 8520893089), and 'Visit Us' (123 Innovation Drive, San Francisco, CA 94105). To the right, there's a large form for messaging, containing fields for 'First Name', 'Last Name', 'Email Address', 'Select Subject', and 'Your Message'.

# SIGN IN PAGE

The image displays two side-by-side web pages. The left page is a 'Sign In' page for 'Intellexa', featuring social login buttons for Google+, Facebook, and LinkedIn, and fields for Email and Password. The right page is a 'Hello, Friend!' registration page, encouraging users to register with personal details to use site features, and includes a 'SIGN UP' button.

**Sign In**

Or use your email Password

Email

Password

Forgot Password?

SIGN IN

**Hello, Friend!**

Register with your personal details to use all of site features

SIGN UP

# MAIN PAGE

The screenshot shows the Intellexa dashboard with the title "My Study Library". At the top, there are three buttons: "My Growth" (green), "+ Upload New" (blue), and "MA" (dark blue). Below these are two action buttons: "Add URL" (with a magnifying glass icon) and "Upload File" (with an upward arrow icon). The main section is titled "Recent Study Sets" and displays three items:

- Artificial Intelligence** (YOUTUBE): Published 3 days ago. Description: Machine Learning, Data Science, AI, and Large Language Models (LLMs) are currently generating significant interest and finding... [Open Material >](#)
- Bert** (PDF): Published 5 days ago. Description: BERT (Bidirectional Encoder Representations from Transformers) is a powerful language model that has significantly advanced how... [Open Material >](#)
- Idfc Interview Questions** (PDF): Published 5 days ago. Description: This text presents a collection of mathematical and logical puzzles. The problems cover a range of topics including probability,... [Open Material >](#)

At the bottom left, the URL "http://127.0.0.1:5000/dashboard#study" is visible.

A modal window titled "Upload Study Materials" is displayed over the dashboard. It contains a cloud icon with an upward arrow and a dashed area for dragging files. Below it is the text "Drag & drop your PDF, DOCX, or PPTX files here" and a "Browse Files" button. There is also a section for adding YouTube URLs with a text input field containing "https://www.youtube.com/watch?v=...nhttps://youtu.be/...". A checkbox at the bottom left is checked, with the text "Create one study set from all PDFs, DOCX, PPTX, and URLs". At the bottom right, there is a text input field labeled "Set title (optional)".

# LEARNING MODE

The screenshot displays the Intellexa platform interface. At the top, the Intellexa logo is on the left, and a blue button labeled "+ Upload New" and a "MA" icon are on the right. Below the header, a back navigation link "[← Back to Study Library](#)" is visible. The main content area features a card for a "Deep Learning" document, which is a PDF uploaded 5 hours ago. To the right of this card is a "Learning Mode" section with a dropdown menu currently set to "Standard-Balanced Approach". Other options in the dropdown include "Standard-Balanced Approach", "Beginner-Friendly", "Intermediate Level", "Advanced Concepts", and "Exam Preparation". Below the "Learning Mode" section is an "AI-Generated Summary" card. The summary text discusses various deep learning architectures beyond CNN, RNN, LSTM, and Transformer, mentioning Boltzmann Machines (BMs) and Restricted Boltzmann Machines (RBMs). A blue speech bubble icon is located in the bottom right corner of the summary card.

**Deep Learning**

PDF Deep Learning 5 hours ago

**Learning Mode**

Standard-Balanced Approach

Standard-Balanced Approach  
Beginner-Friendly  
Intermediate Level  
Advanced Concepts  
Exam Preparation

**AI-Generated Summary**

This text provides an overview of various deep learning architectures beyond the commonly known CNN, RNN, LSTM, and Transformer. It introduces several advanced models, including:

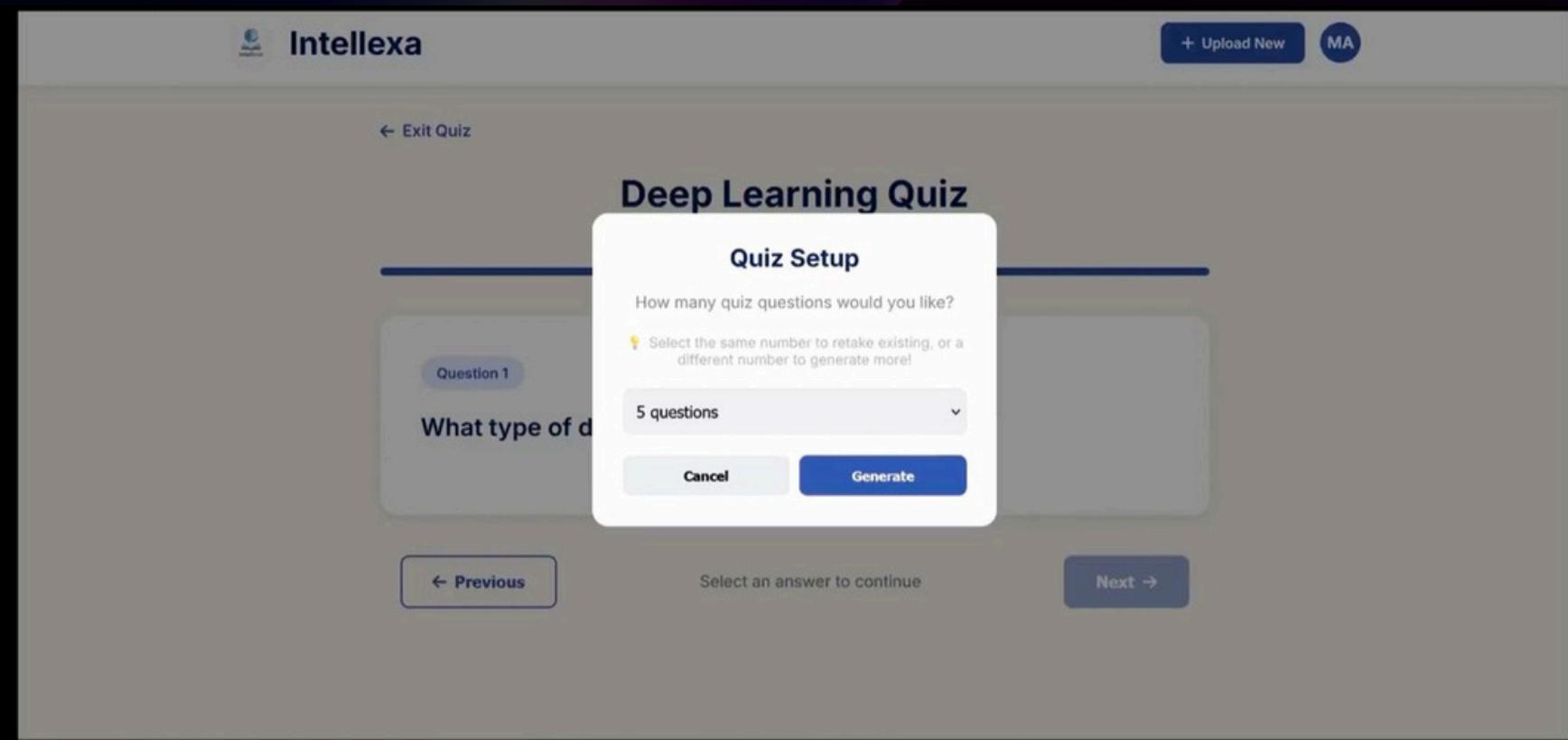
- Boltzmann Machines (BMs), which learn probability distributions and have variations like Restricted Boltzmann Machines (RBMs)

# FLASHCARD

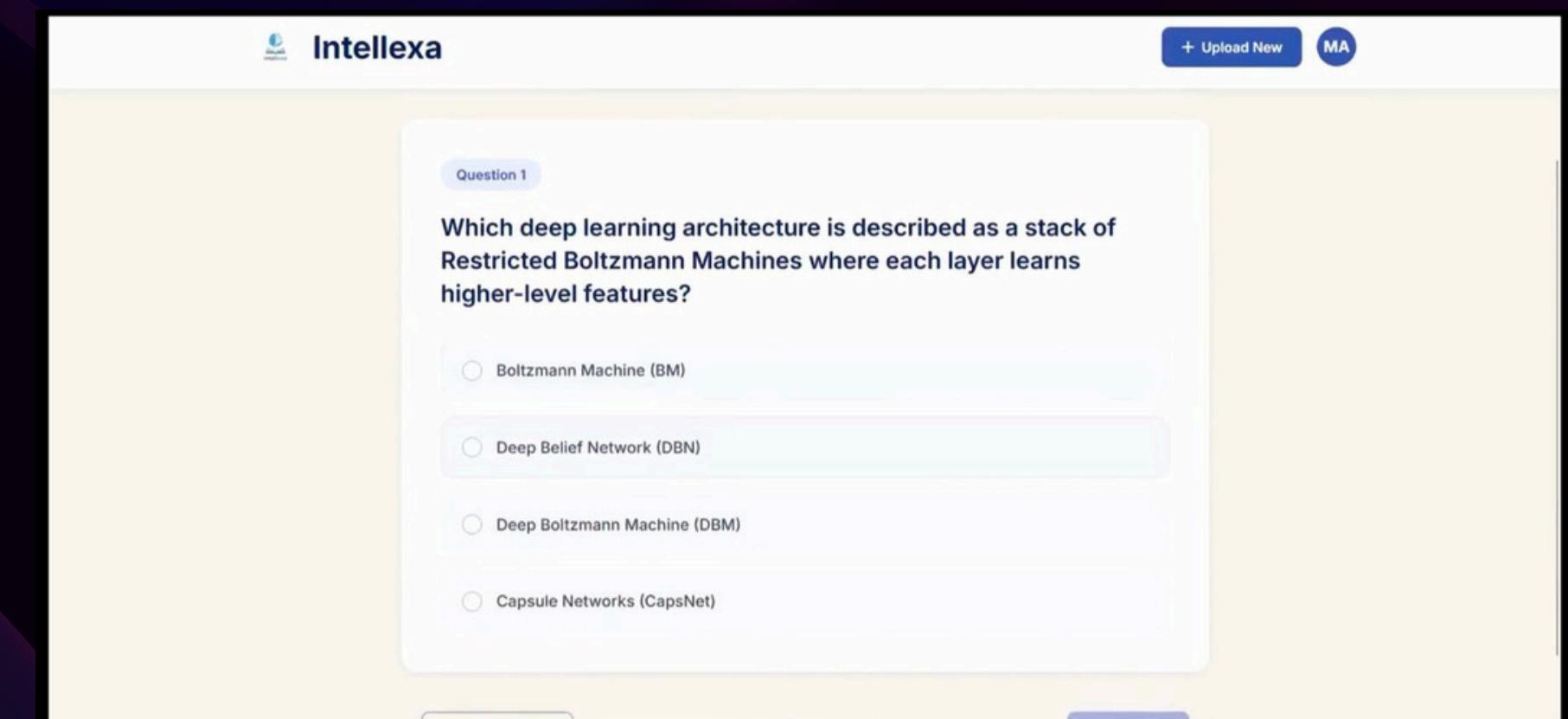
The screenshot shows a web application interface for generating flashcards. At the top, there's a header with the Intellexa logo, a '+ Upload New' button, and a 'MA' button. Below the header, a 'Deep Learning' section is visible. A central modal window titled 'Flashcards Setup' is open, asking 'How many flashcards would you like?'. It includes a note: 'Select the same number to review existing, or a different number to generate more!', a dropdown menu set to '5 flashcards', and two buttons: 'Cancel' and 'Generate'.

This screenshot shows a single flashcard from the generated set. The top navigation bar is identical to the first screenshot. The flashcard itself has a light blue header with the text 'Card 1 of 5'. The main content area contains the question 'What is a Boltzmann Machine?' in bold black text, followed by the instruction 'click to reveal answer'. At the bottom of the card, there are three buttons: 'Previous', 'Show Answer', and 'Next'.

# QUIZ



The screenshot shows the 'Quiz Setup' dialog box from the Intellexa platform. The dialog title is 'Quiz Setup'. It asks, 'How many quiz questions would you like?' with a note: 'Select the same number to retake existing, or a different number to generate more!'. A dropdown menu shows '5 questions'. There are 'Cancel' and 'Generate' buttons at the bottom. The background shows a blurred 'Deep Learning Quiz' interface with a question about deep learning architectures.



The screenshot shows a quiz question titled 'Question 1'. The question is: 'Which deep learning architecture is described as a stack of Restricted Boltzmann Machines where each layer learns higher-level features?'. Below the question are four options, each with a radio button:

- Boltzmann Machine (BM)
- Deep Belief Network (DBN)
- Deep Boltzmann Machine (DBM)
- Capsule Networks (CapsNet)

# CHATBOT

The screenshot shows the Intellexa platform interface. At the top left is the Intellexa logo. To the right are buttons for '+ Upload New' and 'MA'. A sidebar on the left contains a list of deep learning architectures: Deep Belief Networks (DBNs), Deep Boltzmann Machines (DBMs), Capsule Networks (CapsNets), Spiking Neural Networks (SNNs), Graph Neural Networks (GNNs), Diffusion Models, Reinforcement Learning (RL) Networks, Energy-Based Models (EBMs), and Hybrid Architectures. Below this list is a paragraph of text stating that deep learning is a continuously evolving field. On the right side, a blue header bar labeled 'AI Study Assistant' contains a message: 'Hi! 🌟 I'm your AI study assistant. Ask me anything about this material or any study topic!'. Below this is a text input field with placeholder 'Type your question...' and two buttons: 'Generate visual suggestions' and 'Explain like I'm 5'. At the bottom right is a speech bubble icon.

and Deep Belief Networks (DBNs).

- Deep Boltzmann Machines (DBMs), which capture complex hierarchical representations.
- Capsule Networks (CapsNets), designed to preserve spatial relationships by using capsules that output vector routing instead of max-pooling.
- Spiking Neural Networks (SNNs), which mimic biological neurons, communicate via discrete spikes, and are
- Graph Neural Networks (GNNs), specialized for data structured as graphs, with variations like GCN, GAT, and
- Diffusion Models, which generate data by progressively removing noise, with examples like Stable Diffusion
- Reinforcement Learning (RL) Networks, which learn through rewards and punishments, with integrations like (DQN).
- Energy-Based Models (EBMs), which assign an "energy" to data configurations, with lower energy indicating
- Hybrid Architectures, which combine multiple existing models to leverage their strengths.

The text emphasizes that deep learning is a continuously evolving field, with new architectures being developed to address data types and efficiency challenges, allowing for breakthroughs in areas like AI, robotics, and natural language

+ Upload New MA

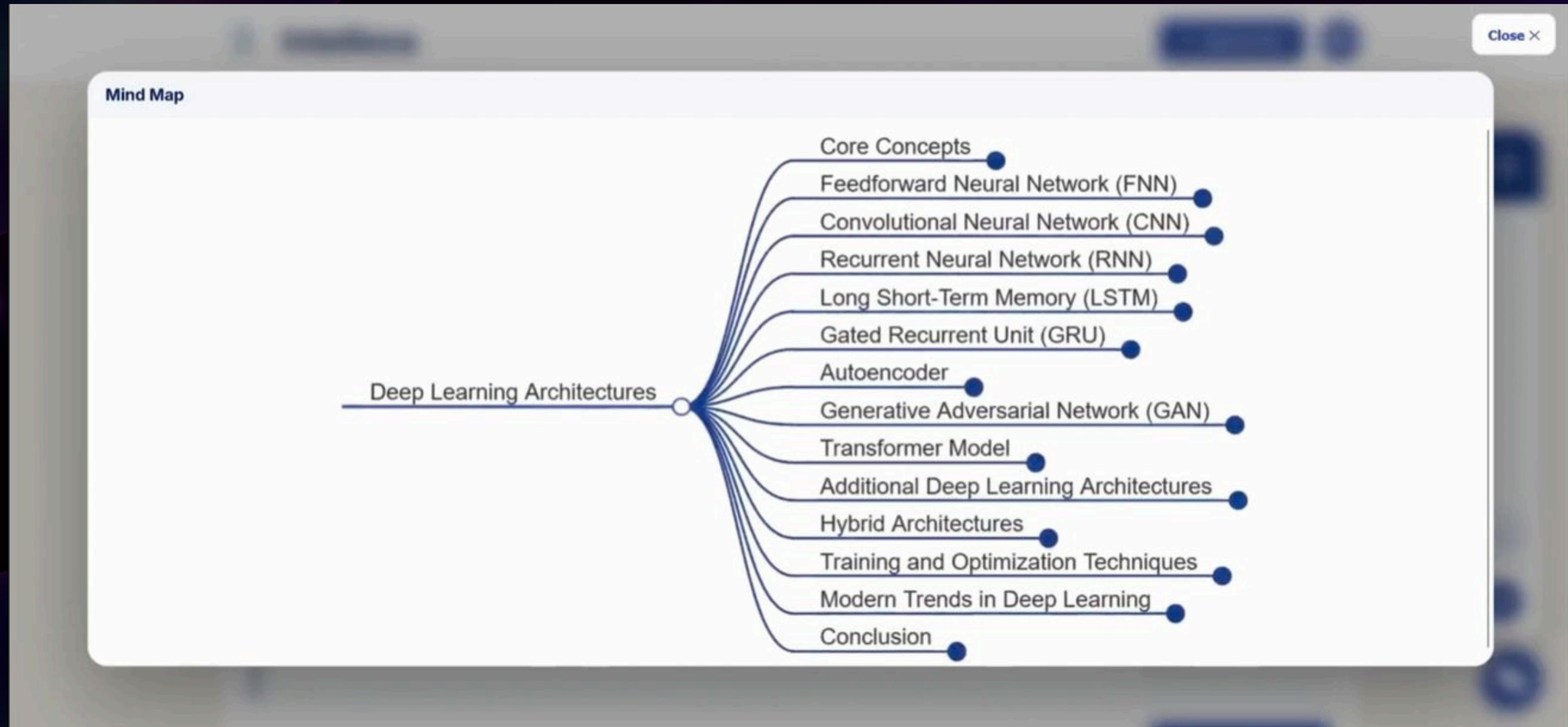
AI Study Assistant

Hi! 🌟 I'm your AI study assistant. Ask me anything about this material or any study topic!

Type your question...

Generate visual suggestions Explain like I'm 5

# MINDMAP



# LINK PAGE

The image shows a screenshot of the Intellexa platform interface. On the left, a modal window titled "Add YouTube Video" is open, prompting the user to enter a YouTube URL. The URL entered is <https://www.youtube.com/watch?v=itjQT-gFQBY>. Below the URL input field, there is a section titled "How it works" which explains that the platform will extract the transcript from the YouTube video and use AI to generate Summaries, Flashcards, Quiz questions, and Chat responses. There are "Cancel" and "Process Video →" buttons at the bottom of this modal. In the background, the main study page is visible, showing a section titled "MAIN PAGE" and "Study Material - Intellexa". A large "AI-Generated Summary" box contains text about Faster R-CNN. At the bottom of the screen, the Windows taskbar is visible, showing the date (10-10-2025), time (17:21), and various system icons.

YouTube Video URL  
<https://www.youtube.com/watch?v=itjQT-gFQBY>

How it works

We'll extract the transcript from your YouTube video and use AI to generate:

- Summaries
- Flashcards
- Quiz questions
- Chat responses

Cancel Process Video →

MAIN PAGE

Study Material - Intellexa

http://127.0.0.1:5000/study/13

Intellexa

+ Upload New MA

AI-Generated Summary

This text introduces Faster R-CNN as the latest model in the R-CNN family for object detection. It explains that Faster R-CNN addresses the need for faster processing by passing the entire image through a Convolutional Neural Network (CNN) once to generate features. These features, along with region proposals, are then processed using an "RoI pooling layer." The main components of Faster R-CNN are highlighted as the Region Proposal Network and anchors. The summary also mentions that the training process and results of Faster R-CNN will be discussed. It contrasts Faster R-CNN's efficiency with previous methods, noting a significant improvement in detection speed compared to R-CNN, which took much longer per proposal. The text emphasizes that Faster R-CNN reduces the time spent per proposal, leading to overall faster object detection.

Simple Explanations - Beginners

Generate Summary

30°C Sunny

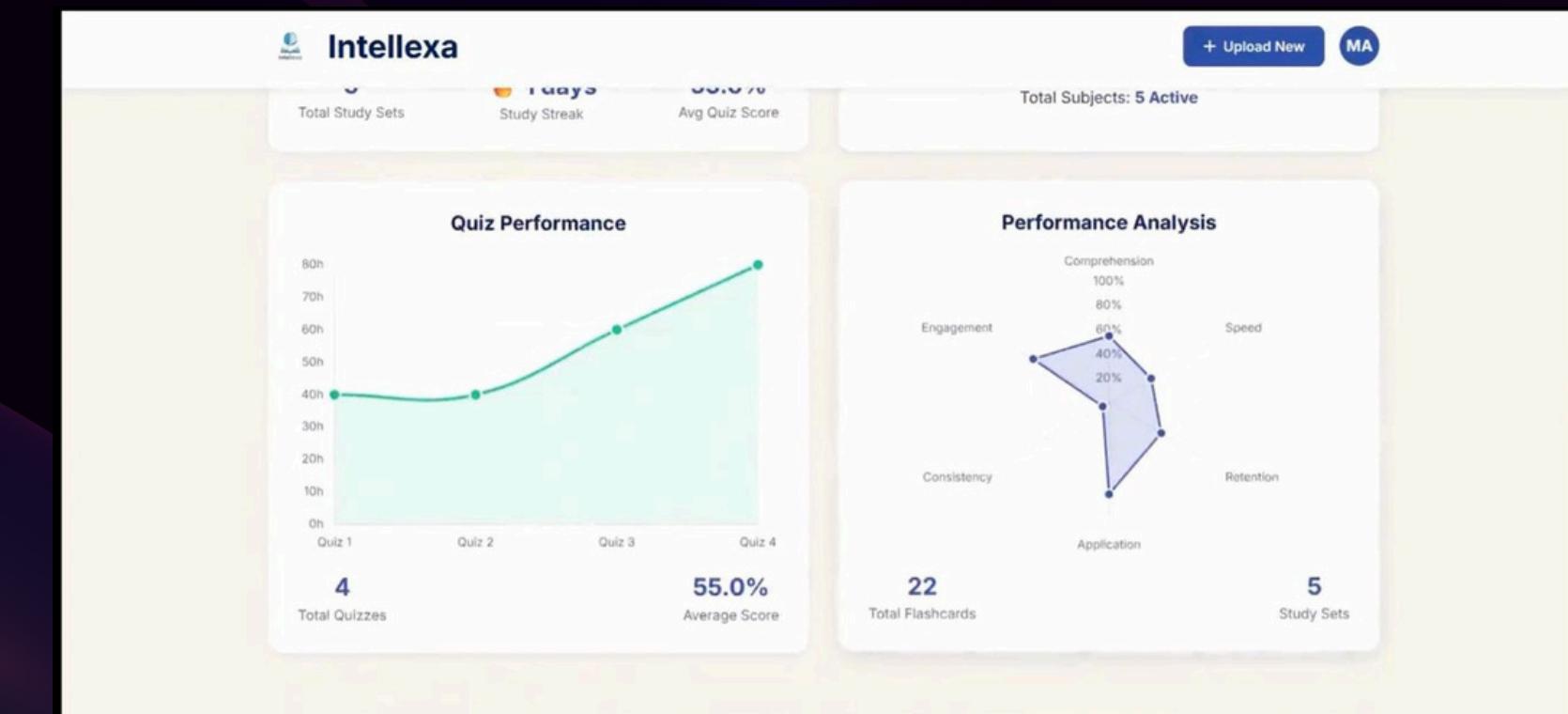
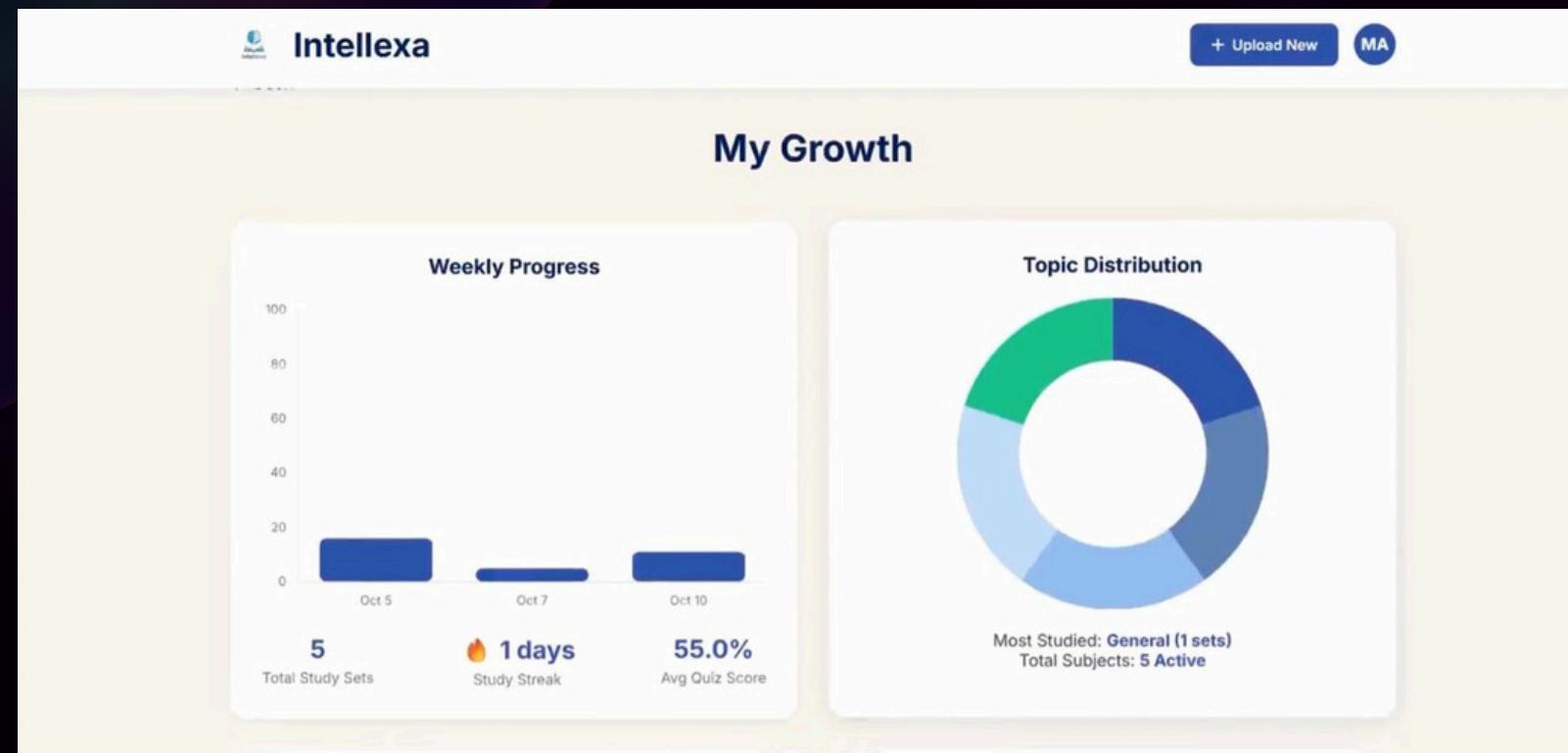
Search

17:21

ENG IN

10-10-2025

# GROWTH PAGE



# STUDY LIBRARY

 Intellexa

[My Growth](#) [+ Upload New](#) [MA](#)

## My Study Library

[Add URL](#) [Upload File](#)

### Welcome back, manav!

Ready to continue your learning journey? You have 5 study set(s) waiting

#### Recent Study Sets

 YOUTUBE

**Faster R-CNN**

⌚ 5 hours ago

[Faster R-CNN](#)

This text introduces Faster R-CNN, the latest model in the R-CNN family for object detection. It explains the need for Faster R...

[Open Material >](#)

 MIXED

**Deep Learning**

⌚ 5 hours ago

[Deep Learning](#)

This text provides an overview of various deep learning architectures beyond the commonly known CNN, RNN, LSTM, and Transformer. It...

[Open Material >](#)

 YOUTUBE

**Artificial Intelligence**

⌚ 3 days ago

[Artificial Intelligence](#)

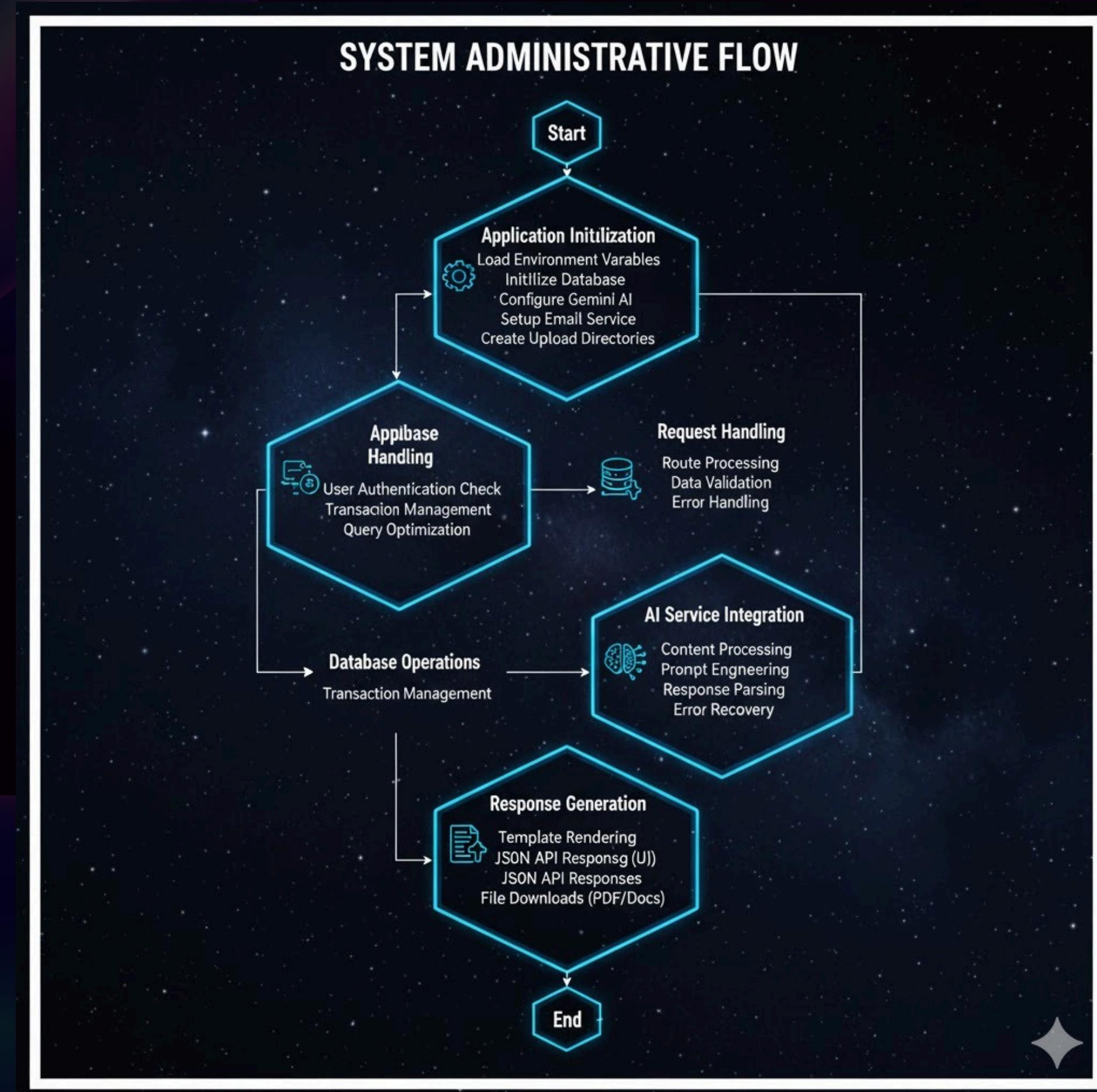
Machine Learning, Data Science, AI, and Large Language Models (LLMs) are currently generating significant interest and finding...

[Open Material >](#)

# USER ARCHITECTURE



# SYSTEM ADMINISTRATION FLOW



# LIST OF FEATURES IMPLEMENTED



# CODE & CODE QUALITY TOOLS



intellexa/

File / Folder	Type	Commit Status	Last Commit
Project root folder:		Initial commit	last month
instance/ static	Contains temporary files	Initial commit	last month
templates		Initial commit	last month
uploads		first commit3	last month
Stores HTML web assets	media	Commit	3 weeks ago
README.md Python	media	Commit	3 weeks ago
app2.py		Commit	3 weeks ago
app3.py		Initial commit	last month
requirements.txt		Commit	last month



# NON-FUNCTIONAL REQUIREMENTS (NFRS)

## Performance Requirements

ID	Requirement Description	Metric / Target Value
NFR-P1	The system shall generate a summary for an input document ( $\leq 5$ pages) within 5 seconds.	$\leq 5$ seconds
NFR-P2	Quiz or flashcard generation for the same input shall complete within 7 seconds.	$\leq 7$ seconds
NFR-P3	The application shall handle at least 3 simultaneous requests on localhost without failure.	$\geq 3$ concurrent requests
NFR-P4	Uploaded files shall not exceed 25 MB to maintain stable memory and API performance.	$\leq 25$ MB
NFR-P5	Average CPU utilization during Gemini API calls shall remain below 80%.	$\leq 80\%$ CPU

## Reliability & Availability Requirements

ID	Requirement Description	Metric / Target Value
NFR-R1	API call failures shall be handled using try-except without server crashes.	100 % handled
NFR-R2	User data and history shall persist in the SQLite database across sessions.	100 % persistence
NFR-R3	Dashboard progress data shall remain accurate for each user session.	100 % accuracy
NFR-R4	System uptime during local runs shall be at least 95 % (excluding manual stops).	$\geq 95\%$ uptime



# NON-FUNCTIONAL REQUIREMENTS (NFRS)

## Security & Privacy Requirements

ID	Requirement Description	Metric / Target Value
NFR-S1	User passwords shall be stored as securely hashed values in SQLite.	100 % hashed
NFR-S2	Gemini API keys shall be stored in .env and config.py, never in code.	100 % externalized
NFR-S3	User sessions shall automatically expire after 30 minutes of inactivity.	30 min timeout
NFR-S4	Only .pdf, .docx, .pptx, and YouTube links are accepted as valid uploads.	4 file types allowed
NFR-S5	Each user shall only access their own dashboard data.	100 % access isolation

## Usability & Accessibility Requirements

ID	Requirement Description	Metric / Target Value
NFR-U1	Dashboard and main pages shall load within 3 seconds on localhost.	≤ 3 seconds
NFR-U2	Loading indicators must display during all Gemini API operations.	Always visible
NFR-U3	UI shall be fully usable on standard desktop and laptop resolutions.	≥ 1024 × 768 px
NFR-U4	Core flow (upload → summarize → quiz) shall complete in ≤ 3 navigation steps.	≤ 3 steps



# NON-FUNCTIONAL REQUIREMENTS (NFRS)

## Maintainability & Configurability Requirements

ID	Requirement Description	Metric / Target Value
NFR-M1	All Gemini API configurations shall be stored externally (.env, config.py).	100 % externalized
NFR-M2	Core modules (upload, summarize, quiz, dashboard) shall be independently modifiable.	Low coupling
NFR-M3	Code shall include comments for at least 90 % of major functions.	≥ 90 % commented
NFR-M4	Minor API or configuration changes shall take ≤ 30 minutes to update.	≤ 30 minutes

## Logging & Error Handling Requirements

ID	Requirement Description	Metric / Target Value
NFR-L1	All API calls and critical user actions shall be wrapped in try-except.	100 % handled
NFR-L2	Errors shall be shown as readable user messages, not raw traces.	100 % friendly errors
NFR-L3	Console logs shall record at least 80 % of key events for debugging.	≥ 80 % logged



# NON-FUNCTIONAL REQUIREMENTS (NFRS)

## Data Storage & Persistence Requirements

ID	Requirement Description	Metric / Target Value
NFR-D1	User progress, uploaded file metadata, and quiz data shall be saved in SQLite.	100 % stored
NFR-D2	Each database write operation shall maintain integrity and consistency.	100 % consistent
NFR-D3	Total SQLite DB size shall remain below 200 MB during local use.	≤ 200 MB

## Deployment & Portability Requirements

ID	Requirement Description	Metric / Target Value
NFR-P1	Application shall run on systems with ≥ 4 GB RAM and Python 3.10+.	Min: 4 GB RAM, Python 3.10+
NFR-P2	Local setup and configuration shall complete within 10 minutes.	≤ 10 minutes
NFR-P3	System shall be operable on both Windows and Linux environments.	2 OS supported



# DEVELOPMENT APPROACH & FEATURES



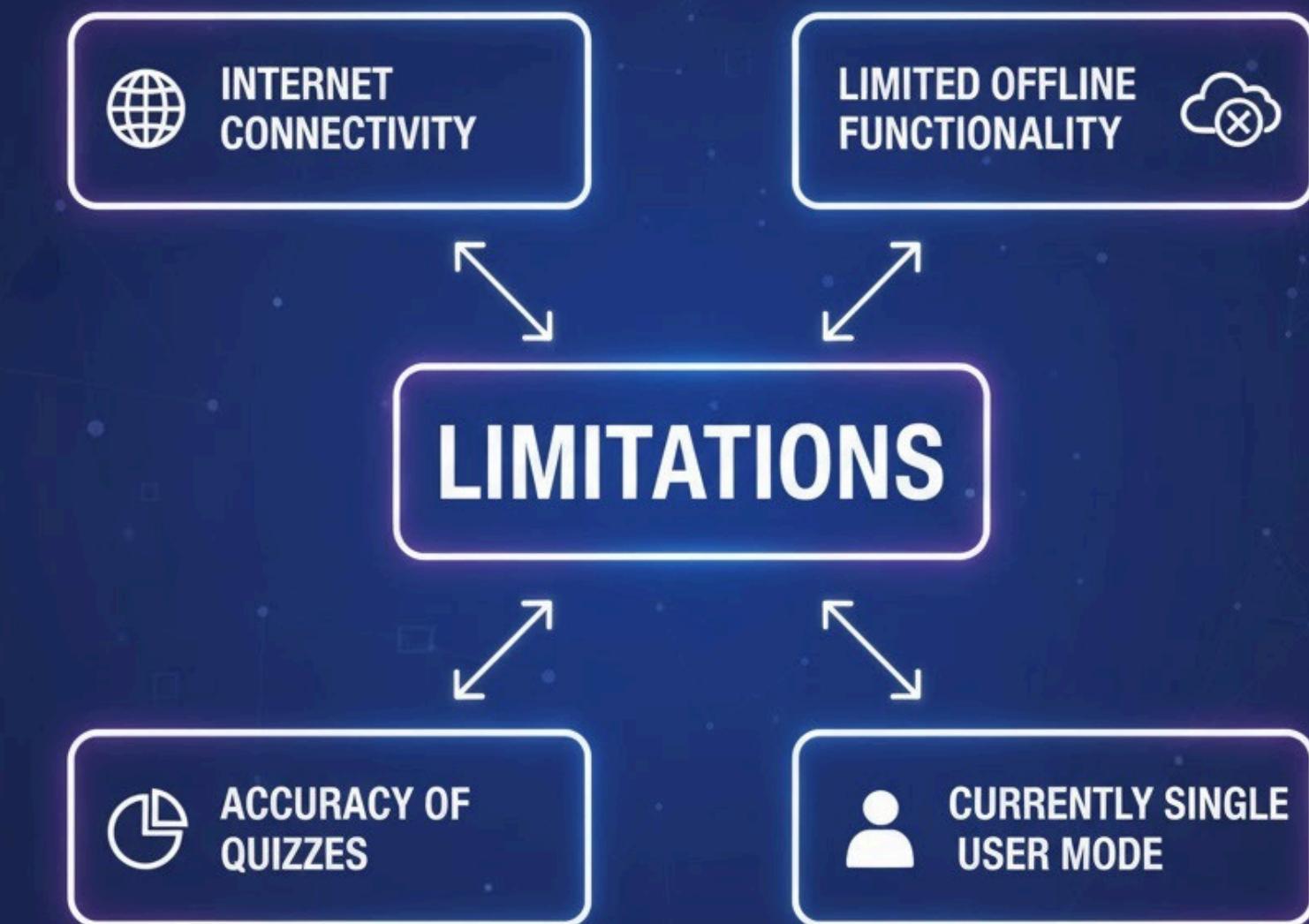
<b>Requirement Understanding &amp; Planning</b>	Identified student learning challenges and features needed.
<b>Wireframing &amp; UI Planning</b>	Designed basic screens for learning modules, quizzes, and notes.
<b>Backend Development (Flask APIs)</b>	Created APIs for processing text, audio/video notes, and AI responses.
<b>AI Integration</b>	Integrated Gemini for content generation + Whisper for transcription.
<b>Document Automation</b>	Added automatic PDF/PPT generation and file handling.
<b>Database Setup (SQLite)</b>	Stored user learning progress, notes, and extracted content.
<b>Frontend Integration</b>	Connected UI with backend APIs for real-time user experience.
<b>Testing &amp; Refinement</b>	Debugged features, improved UI flow, and optimized speed.



# CHALLENGES



# LIMITATIONS



# FUTURE DEVELOPMENT SCOPE





# Application Video Link

**Click Here!**



# THANK YOU!

