

DATASAGE – AI DATA SCIENCE TUTOR

Personalized AI guidance for Data Science learners, enhancing their skills and understanding in a rapidly evolving field.

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CHALLENGES FACED BY DATA SCIENCE LEARNERS

■ OVERWHELMING ONLINE RESOURCES

Learners struggle with the vast amount of data science resources available online.

■ LACK OF PERSONALIZED TUTORING

Many learners do not have access to personalized tutoring for better understanding.

■ ABSENCE OF INSTANT FEEDBACK

Instant feedback during learning is often missing, hindering progress.

AI-POWERED TUTOR: DATASAGE SOLUTIONS

■ AI-POWERED TUTORING

DataSage provides personalized tutoring powered by AI technology.

■ EXPERTISE LEVEL CUSTOMIZATION

Tailors responses based on individual user expertise levels for effective learning.

■ SUPPORT FOR PYTHON

Helps users grasp Python programming concepts with tailored assistance.

■ STATISTICS SUPPORT

Offers guidance on statistical concepts and applications for data analysis.

■ MACHINE LEARNING INSIGHTS

Provides insights and explanations on machine learning techniques and algorithms.

■ DATA VISUALIZATION TOOLS

Assists in understanding data visualization techniques to present data effectively.

INNOVATIVE FEATURES FOR ENHANCED EXPERIENCE



THEME CUSTOMIZATION

User can easily switch between Dark mode and vibrant gradients.



GEMINI 2.0 FLASH

Offers fast, contextual answers to users' inquiries.



UNSPLASH AI VISUALS

Leverages dynamic 3D assistant visuals from Unsplash.



EXPERTISE PROFILE SELECTOR

Users can choose their expertise level: Beginner, Intermediate, Advanced.



INTERACTIVE SKILL SLIDERS

Allows users to assess and showcase their skills visually.

OVERVIEW OF OUR TECH STACK

Key technologies driving our application

| COMPONENT | TECHNOLOGY USED |
|-----------------|------------------------------|
| UI Framework | Streamlit |
| LLM | Gemini 2.0 Flash (LangChain) |
| Image API | Unsplash |
| UI Styling | Custom CSS (Glassmorphism) |
| Prompt Handling | LangChain + Templates |
| | |

ARCHITECTURE OF AI SERVICES



■ FRONTEND DEVELOPMENT

Utilizes Streamlit UI with custom themes for an interactive user experience.

■ MIDDLEWARE INTEGRATION

Incorporates LangChain to effectively chain prompts for seamless data flow.

■ BACKEND SERVICES

Employs Google Gemini wrapped in LangChain for powerful language model capabilities.

■ IMAGE SERVICE CONNECTION

Integrates Unsplash API to provide a diverse range of images for the application.



ENHANCING USER EXPERIENCE WITH UX

PERSONALIZED CHATBOT



Implementing a chatbot tailored to user preferences enhances engagement.

MODULAR DESIGN



Features a modular and expandable design, allowing for customization and scalability.

CHAT MEMORY



Incorporates chat memory with animated chat bubbles to improve interactions.

MULTILINGUAL SUPPORT

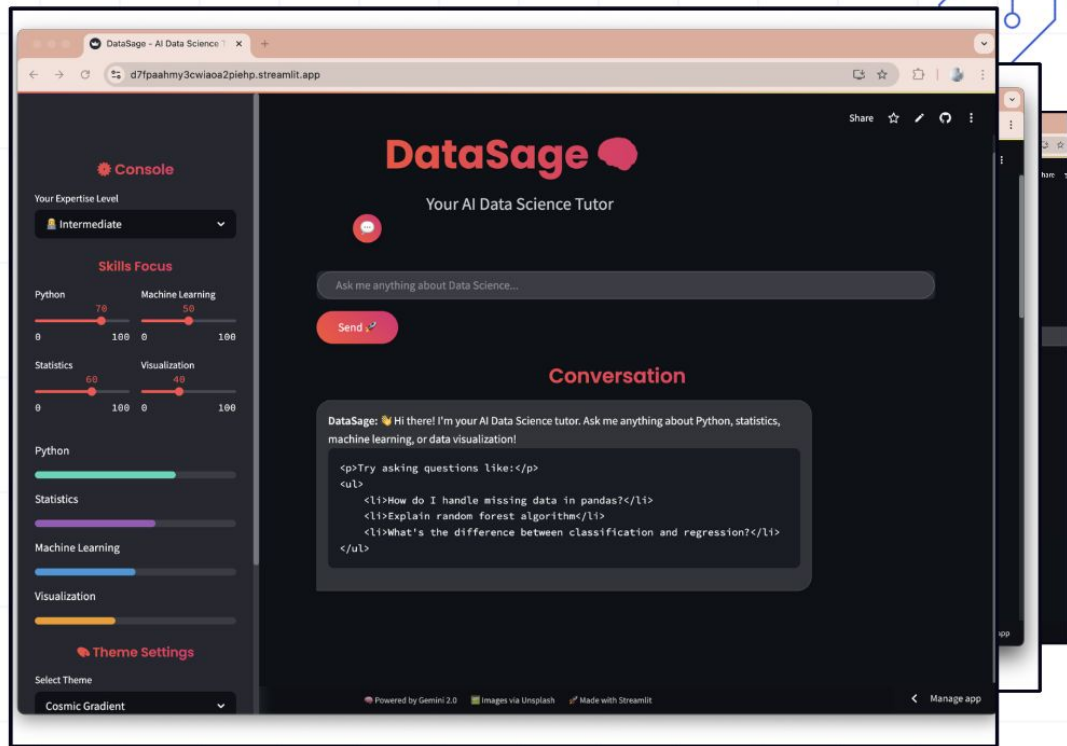


Upcoming multilingual support will cater to diverse user bases, enhancing accessibility.

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HOMEPAGE DESIGN

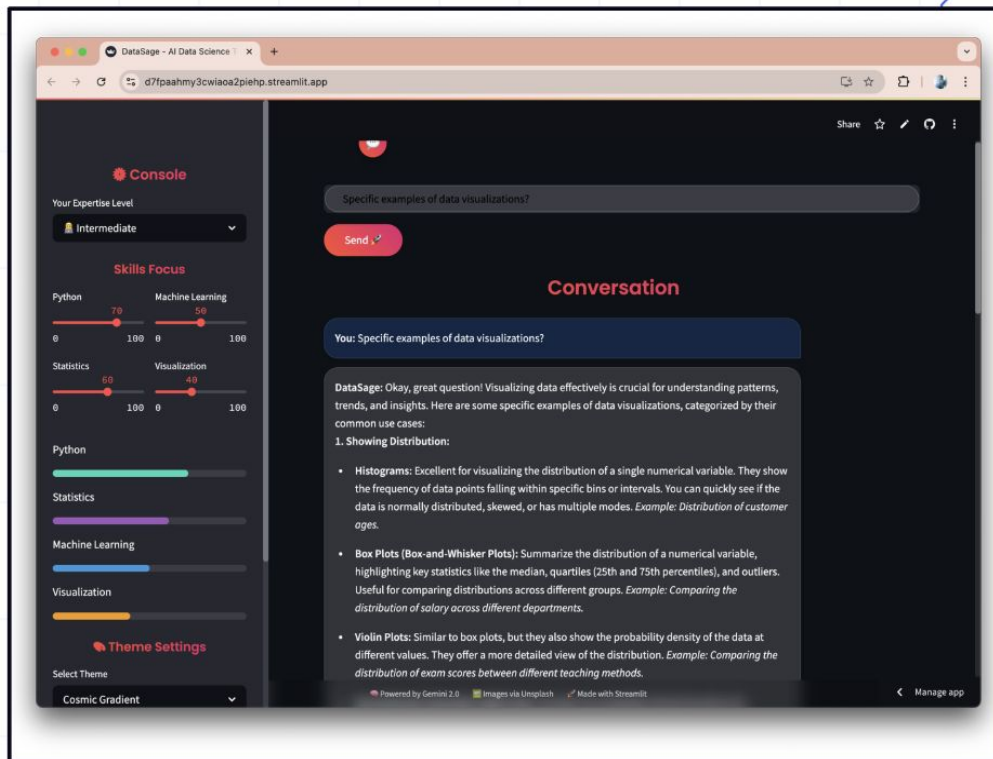
The homepage features a modern design with a captivating 3D AI image that draws users in.



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INTERACTIVE CHAT INTERFACE

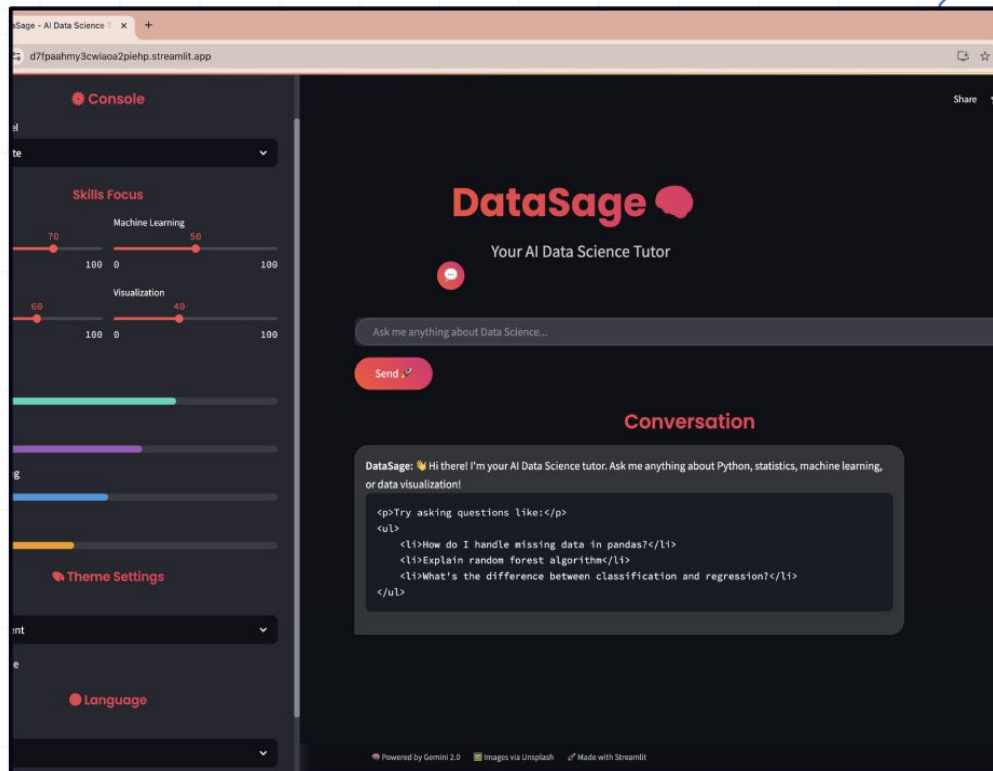
The chat interface provides seamless



03

SKILL SLIDER SIDEBAR

A sidebar displaying skill sliders allows users to



INNOVATIONS IN LEARNING TECHNOLOGY

■ CONVERSATION MEMORY WITH VECTOR DB

Utilizes vector databases to enhance conversation memory, improving retention and engagement.

■ MULTILINGUAL LLM INTEGRATION

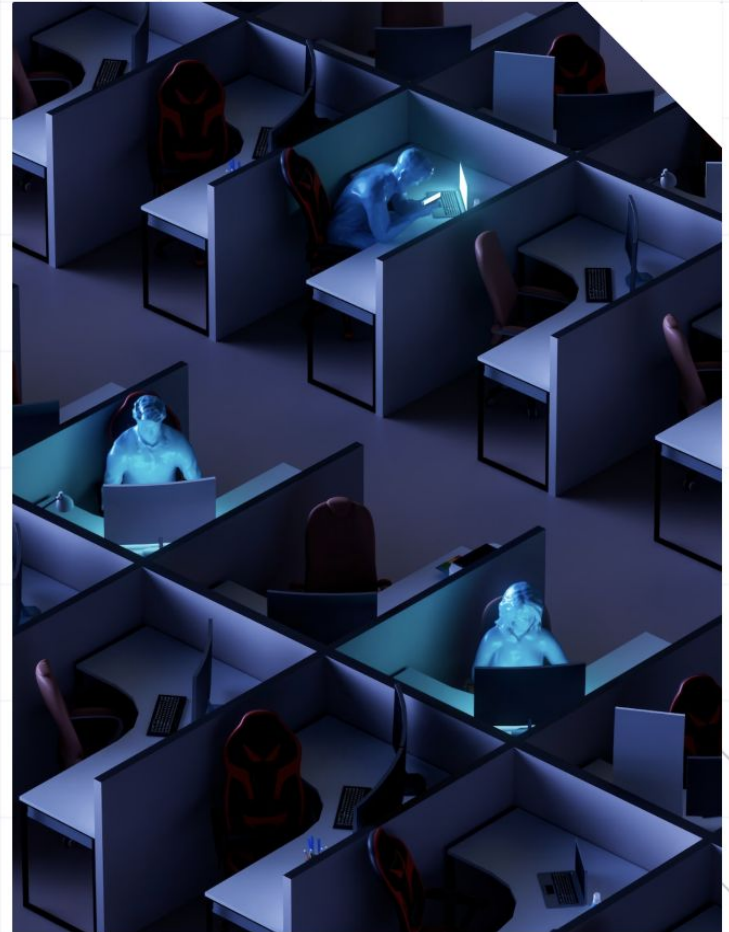
Integrates multilingual large language models for diverse language support, breaking language barriers.

■ TUTOR MODE IMPLEMENTATION

Features a tutor mode that includes lesson plans and quizzes for personalized learning experiences.

■ ANALYTICS DASHBOARD FOR INSIGHTS

Provides an analytics dashboard to deliver insights on learner progress and engagement metrics.





THANK YOU