



LISTENER AI /Hearken PROJECT REPORT

"made by kreakers for the fighters out there"

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LISTENER AI /HEARKEN



| KREATE

ABSTRACT

Listener AI is an innovative project developed by Team K creators that aims to provide AI-assisted support across various critical areas, including domestic violence reporting, mental health counseling, career guidance, and emergency contacts. The project's core involves the integration of AI chatbot technology with sentiment analysis capabilities. The Falcon-7B model was selected as the AI chatbot, while a custom sentiment analysis system was created to assess user sentiment during interactions. Integration with WhatsApp enhances accessibility, and in the event of distress, the platform triggers automatic SMS alerts to designated contacts. The comprehensive approach of Listener AI addresses pressing societal issues while leveraging state-of-the-art technology.

INTRODUCTION

In an increasingly interconnected world, Listener AI emerges as a solution to multifaceted challenges faced by individuals. The project introduces an AI platform that offers timely assistance and support in domains that range from emotional well-being to personal safety. The objective is to develop an accessible, user-friendly, and AI-driven system capable of understanding user queries, analyzing sentiments, and responding effectively. By harnessing the power of AI and sentiment analysis, Listener AI strives to make a positive impact on society.

OBJECTIVES

The key objectives of the Listener AI project are as follows:

1. Develop an AI chatbot using the Falcon-7B model to provide responsive and relevant interactions.
2. Implement sentiment analysis to assess user sentiment during conversations and assign sentiment scores.
3. Enable integration with WhatsApp for seamless user engagement and accessibility.
4. Create an emergency alert mechanism triggered by high-risk sentiment scores, sending SMS alerts via the Twilio API.
5. Deploy the complete system using IBM Cloud Services for optimal performance and availability.

SCOPE

The scope of the Listener AI project includes:

- Designing the user interface (UI) and logo for the website to ensure an appealing and intuitive experience.
- Training the Falcon-7B model and customizing it to understand and respond to user queries effectively.
- Developing a sentiment analysis system to evaluate user sentiment based on chat interactions.
- Integrating the AI chatbot and sentiment analysis system with the WhatsApp API to enable smooth interactions.
- Implementing an emergency alert system that sends SMS notifications via the Twilio API when high-risk sentiments are detected.
- Deploying the complete solution using IBM Cloud Services to ensure accessibility and reliability.

LITERATURE REVIEW

A review of existing solutions revealed the need for an AI-driven platform like Listener AI. While solutions like **Replika** exist, Listener AI distinguishes itself by offering Telegram integration, enabling real-time and accessible support. The project addresses limitations in existing systems and extends its capabilities to critical areas such as mental health and emergency assistance

IMPLEMENTATION

The implementation process encompassed the following phases:

1. **UI and Frontend:** The UI and logo design were executed, resulting in an intuitive and visually appealing website.
2. **Model Training and Sentiment Analysis:** The Falcon-7B model was trained to comprehend user queries, while the sentiment analysis system was developed to gauge user sentiment.
3. **Backend Integration:** The Flask-based backend was created, integrating the AI chatbot, sentiment analysis system, WhatsApp API, and Twilio API.
4. **Deployment:** IBM Cloud Services will be utilized to deploy the platform, ensuring availability and performance.



RESULT FINDINGS

The project achieved significant outcomes, including:

- A functional AI chatbot capable of understanding user queries and providing contextually relevant responses.
- A sentiment analysis system that assesses user sentiment, aiding in identifying distress.
- Successful integration with Telegram, enabling users to access Listener AI seamlessly.
- An emergency alert mechanism triggered by high-risk sentiment scores, providing critical assistance.

DISCUSSION

The obtained results reflect the effectiveness of the chosen Falcon-7B model and sentiment analysis system. The integration with WhatsApp enhances the accessibility of the platform, facilitating widespread usage. The emergency alert mechanism showcases the potential for real-world impact by enabling timely interventions during high-risk situations.

CONCLUSION

In conclusion, Listener AI demonstrates the potential of AI-driven solutions to address crucial societal issues. The successful integration of AI, sentiment analysis, and WhatsApp creates a powerful tool for providing assistance and support. The project's contribution lies not only in technical innovation but also in its potential to positively impact users' lives.

RECOMMENDATIONS

Looking forward, enhancements could include:

- Further fine-tuning of the Falcon-7B model for enhanced conversation capabilities.
- Continuous improvement of the sentiment analysis system for more accurate emotion assessment.
- Expansion of services and features based on user feedback and emerging needs.
- Addition of more mental health exercises like dopamine detox, meditation sessions etc.
- Integration of voice based assistance so that the companion actually listens to you.

ACKNOWLEDGEMENT

We extend our gratitude to the Hack challenge's mentors, huggingface documentations and various youtube channels, who provided guidance, support, and resources throughout the project's development

REFERENCES

Tech Stacks used: Googel colab, flask, IBM cloud

References: huggingface documentation on Falcon LLM, Langchain, youtube tutorials etc.

for integrating model:



<https://www.youtube.com/watch?v=mAoNANPOsd0&t=274s>

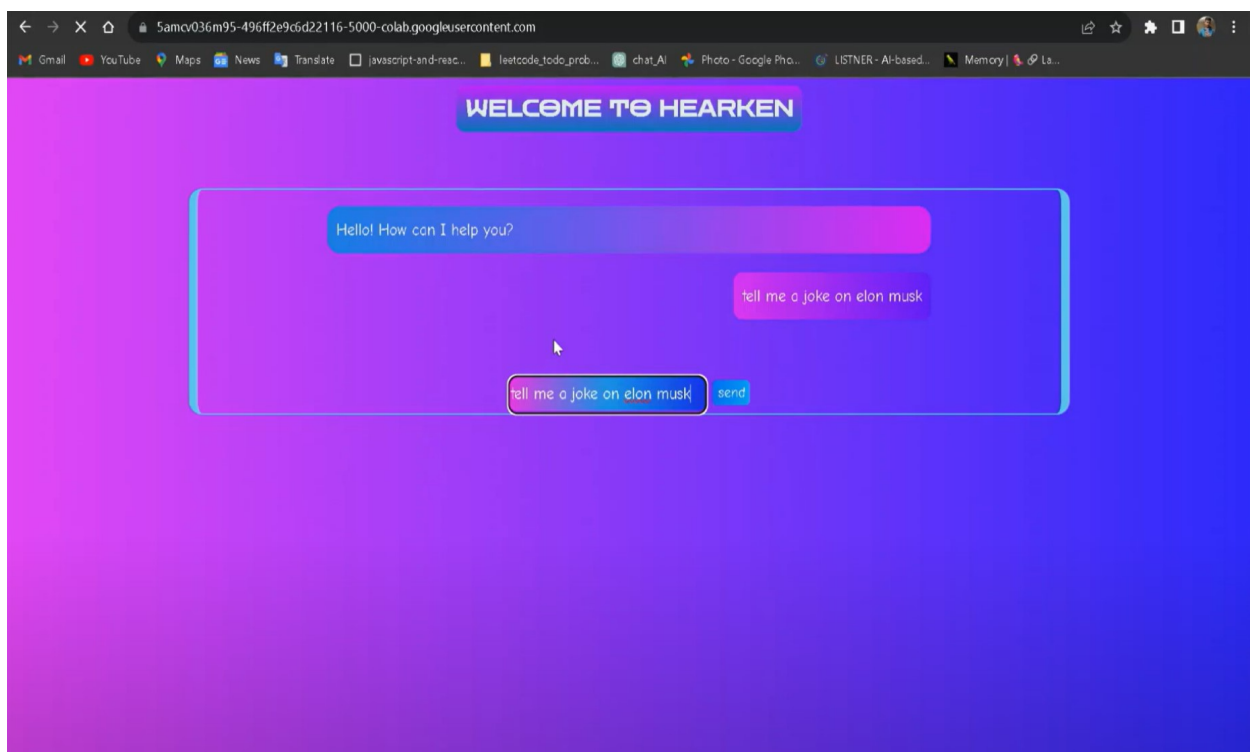
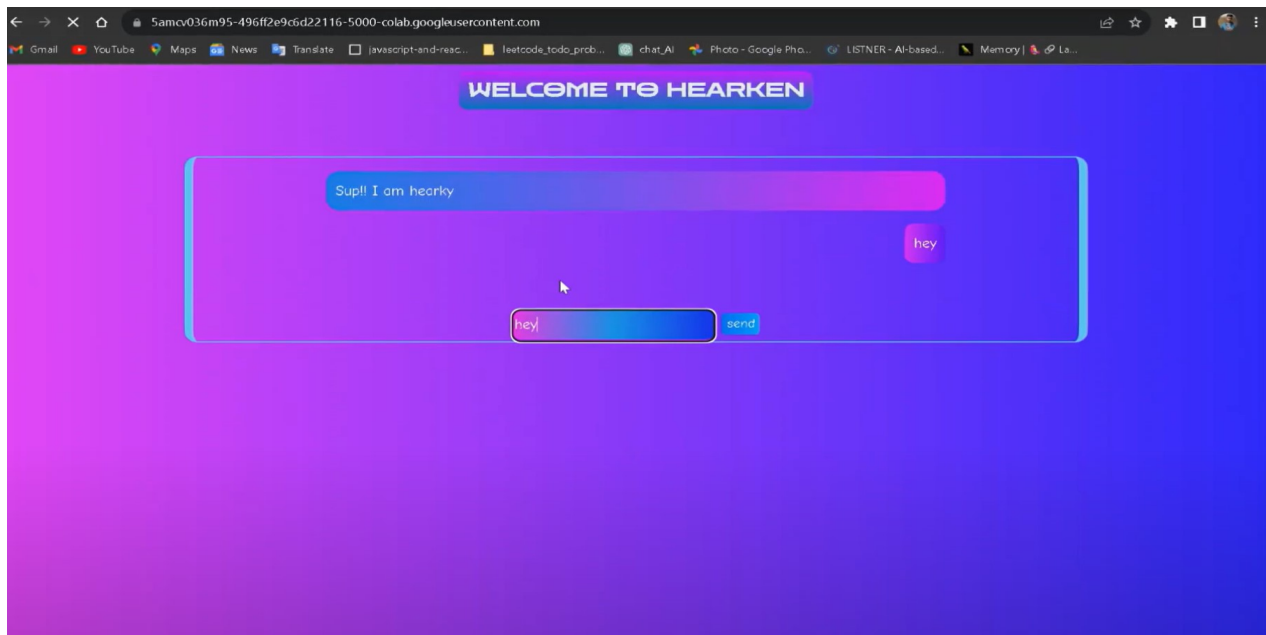
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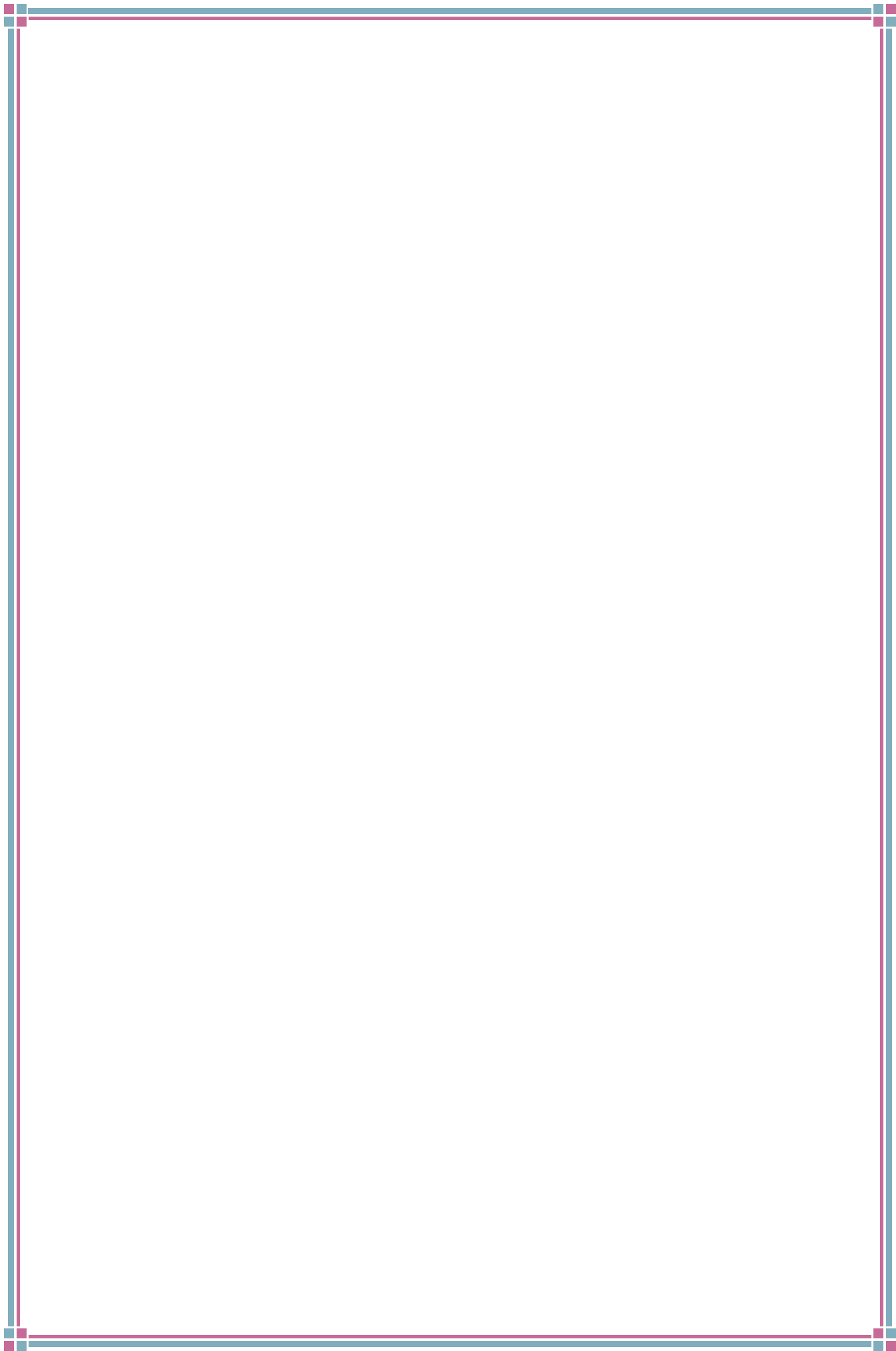


<https://www.youtube.com/watch?v=DkzbCJtFvqM>

flask tutorial:







WELCOME TO HEARKEN

Why did Elon Musk go to the moon? To get away from his fans.

there's a ghost in my room

there's a ghost in my room

send

WELCOME TO HEARKEN

I'm sorry to hear that. Is there anything I can do to help?

I have texted the authorities and your family members, until they reach out to you just keep calm and keep it low

send

hearky

bot



/ai tell me joke on elon musk 8:07 PM ✓✓

Atulya Kumar

/ai tell me joke on elon musk

Why did Elon Musk go to the moon?
To take a selfie with Neil Armstrong. 8:07 PM

Atulya Kumar

/ai tell me joke on elon musk

There are times when we regret the choices we make, but even then we have our options, whether to keep on thinking about the mistakes or take a choice to somehow mend it. The choices we make at this point makes all the difference my friend : 8:07 PM

/ai there is a ghost following me 8:07 PM ✓✓

Atulya Kumar

/ai there is a ghost following me

I'm sorry to hear that. It's important to take care of yourself and seek help if you feel unsafe or distressed. You can try talking to someone you trust, such as a friend or family member, seeking professional support from a mental health provider, or calling a helpline for assistance. Remember, it's never your fault if you are being followed by a ghost. Take care of yourself and stay safe. 8:07 PM

Atulya Kumar

/ai there is a ghost following me

I have texted the authorities and your family memebers, until they reach out to you just keep calm and keep it low 8:07 PM



Write a message...

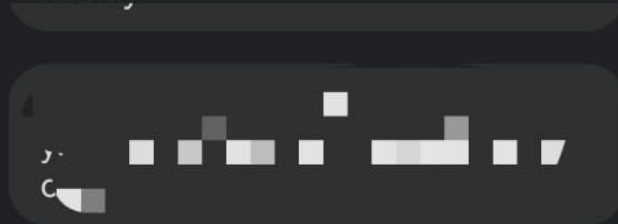


3:45 PM

📶 4.7 K/s 🔋 41



503501



Tuesday • 8:44 PM



Sent from your Twilio trial account
- your friend hearkey seems to be in
trouble. Please reach out to him --
hearkey

Sent from your Twilio trial account
- your friend atulya seems to be in
trouble. Please reach out to him --
hearkey

Sent from your Twilio trial account
- your friend atulya seems to be in
trouble. Please reach out to him --
hearkey

8:54 PM • MY_SIM



Text (MY_SIM)

2



APPENDICES

Different ways you can use LLM:

1. **API Integration**: OpenAI has provided an API that allows developers to integrate LLMs into their own applications, products, or services. You can make API requests to generate text, answer questions, perform translations, and more. This is a flexible way to deploy LLMs for various purposes.
2. **Chatbots and Virtual Assistants**: LLMs can be used to build chatbots and virtual assistants that provide natural language understanding and generation. By integrating LLMs into chat applications or websites, you can create conversational agents that assist users with information, answer questions, or perform tasks.
3. **Content Generation**: LLMs can be used to generate content for blogs, news articles, product descriptions, and more. You can automate content generation by providing prompts or topics to the model, which can then generate human-like text.
4. **Code Generation**: LLMs can assist in code generation tasks, such as writing code snippets, generating documentation, or even assisting with debugging by explaining code-related concepts.
5. **Natural Language Understanding**: LLMs can be used for natural language understanding tasks, including sentiment analysis, entity recognition, and language translation. By fine-tuning the model on specific datasets, you can adapt it to perform these tasks effectively.
6. **Educational Tools**: LLMs can be employed in educational tools to provide explanations, answer student queries, or even act as virtual tutors. They can be used in various subjects and levels of education.
7. **Customer Support**: LLMs can be used to automate customer support by handling common customer queries and providing instant responses. This can be done through chatbots or email automation.
8. **Research and Data Analysis**: LLMs can assist researchers in analyzing vast amounts of text data, summarizing research papers, generating hypotheses, or extracting insights from textual information.

9. **Legal and Compliance**: LLMs can be used in the legal field for tasks like contract analysis, legal document generation, and legal research by quickly parsing and understanding legal texts.

10. **Healthcare**: In healthcare, LLMs can be used for medical record summarization, automated report generation, and assisting healthcare professionals in diagnosing diseases or suggesting treatment options.

11. **Gaming**: LLMs can enhance video games by providing more dynamic and interactive storytelling, generating in-game dialogues, or even assisting players by answering questions and providing hints.

12. **Voice Assistants**: Integrating LLMs into voice assistants can provide more natural and human-like interactions. These models can help voice assistants understand and generate spoken language.

13. **Data Augmentation**: LLMs can be used to augment datasets for machine learning tasks by generating additional training examples or adding context to existing data.

14. **Multi-Modal Applications**: LLMs can be combined with computer vision models to create multi-modal AI applications that understand both text and images, enabling tasks like image captioning or visual question answering.

15. **Ethical Considerations**: It's essential to consider the ethical implications of deploying LLMs, such as the potential for biased outputs, misuse, or spreading disinformation. Careful content moderation and ethical guidelines are crucial.

When deploying LLMs, consider factors like model size, latency, cost, and data privacy. It's also important to continually monitor and fine-tune your deployments to ensure they meet the desired objectives and ethical standards.