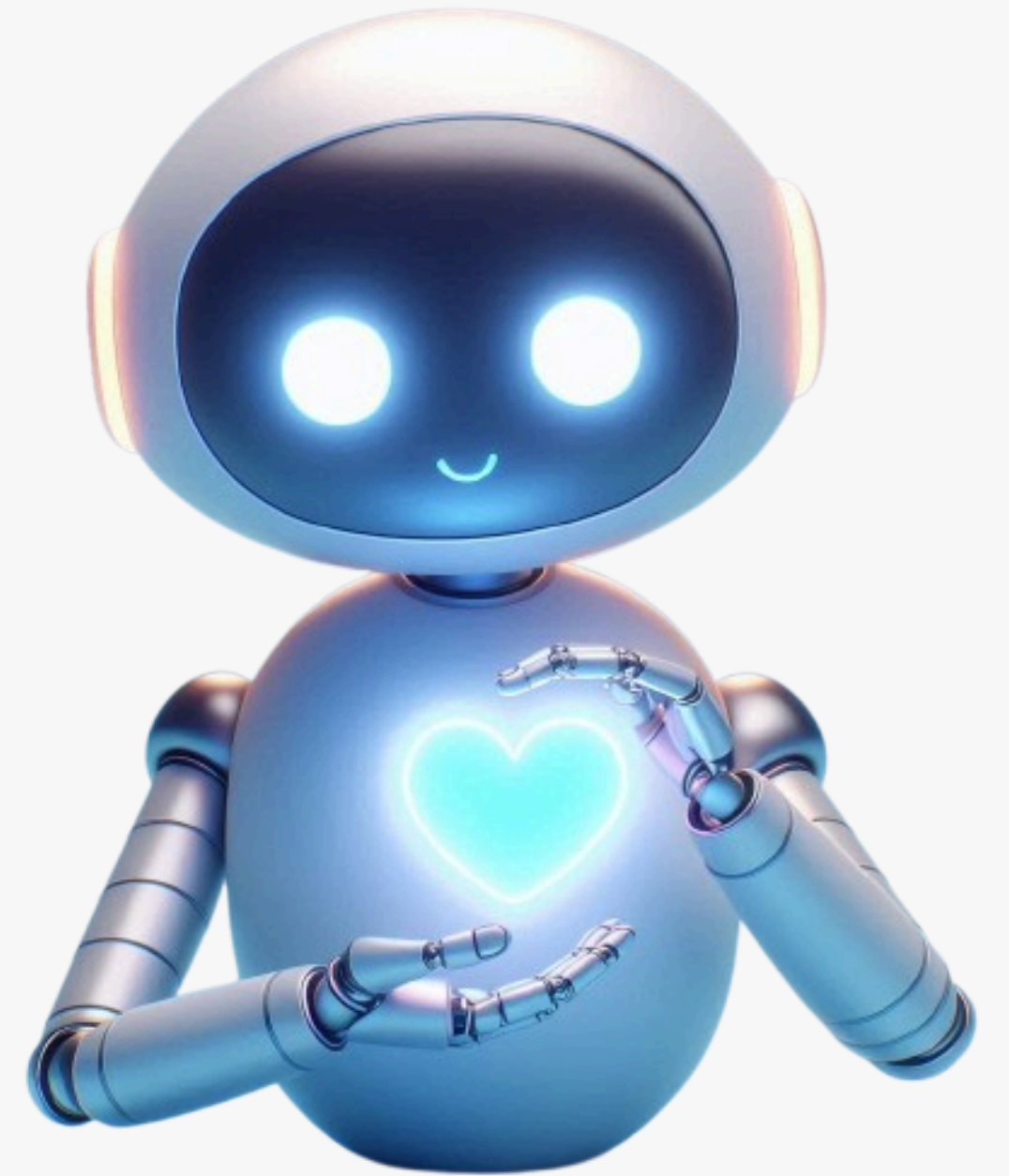# EmoCare

YOUR AI POWERED MENTAL HEALTH CHATBOT

P2-1 TEAM

WHY?

- Mental health is a global concern, millions are suffering from anxiety, depression, and stress.
- Traditional mental health support is often limited by accessibility, cost, and social stigma.

- **Psychological Trauma from Conflict & Oppression**
- **The Palestinian and Gaza situation, has affected the mental health of children and families who have endured months of conflict, displacement, and uncertainty.**
- **Psychological trauma, manifesting in various ways, including post-traumatic stress disorder (PTSD), anxiety, depression, and long-term emotional distress.**

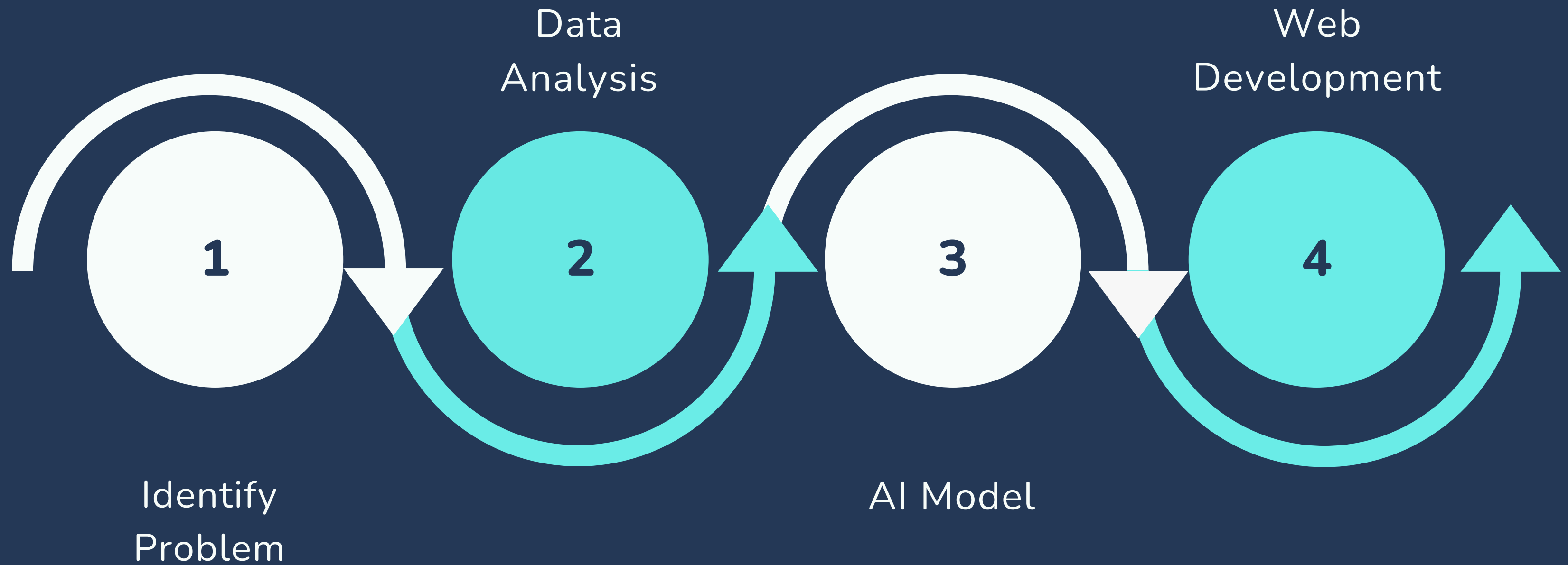# THE PROJECT CONCEPT

HOW DOES CHATBOT WORK?

- The Chatbot uses artificial intelligence to analyze emotions and respond to conversations.
- It supports voice and written, in a natural and supportive manner.
- Provides instant tips and tools for managing stress and anxiety.

BUSINESS MODEL CANVAS

Problem

- High levels of stress, anxiety, and depression
- Limited access to mental health support
- Stigma surrounding mental health
- Long wait times for therapy sessions
- Shortage of mental health professionals
- Lack of anonymity

Solution

AI-powered chatbot with text and voice support for instant emotional assistance with Anonymous psychiatrist consultations via text and voice calls.

Key Metrics

- Number of active users
- Retention rate
- Number of AI chatbot interactions
- Number of therapy sessions booked
- Corporate & NGO partnerships secured
- Revenue growth

Value Proposition

- Instant, anonymous, and affordable mental health support
- AI-powered emotional intelligence that adapts to users' feelings
- Combines AI and real human therapists in one platform
- Voice-based chatbot & consultations for a more personal experience
- NGO, insurance, and corporate-backed funding to make therapy accessible.
- Custom insights & tracking to help users monitor their mental health progress.

Unfair Advantage

- AI Emotion Analysis that detects emotions through text and voice.
- Strong partnerships with insurance companies, NGOs, and universities.
- Advanced privacy and anonymity features to ensure user comfort
- Multilingual support (including Palestinian dialect) to target underserved markets
- Integrated mental health ecosystem combining AI, therapists, and real-time crisis support

Channels

- Digital Marketing App & Website
- University & Corporate Partnerships
- Referral & Affiliate Programs
- Mental Health Awareness Campaigns

Customer Segments

Primary Users:
- Individuals struggling with mental health
- People who prefer anonymous support
- Individuals in crisis or distress
- Low-income users who can't afford therapy(covered by NGOs or insurance)

B2B Clients:
- Corporations & HR departments
- Universities & schools
- NGOs & insurance companies

Cost Structure

Fixed Costs
- AI development and training models
- Cloud computing and data storage
- Salaries for psychiatrists and AI developers
- Marketing and brand awareness campaigns

Variable Costs
- Per-session psychiatrist fees
- Server and API costs based on user growth
- Customer support & crisis intervention specialists

Revenue Streams

- Per-session psychiatrist fees
- Server and API costs based on user growth
- Customer support & crisis intervention specialists

THE APPROACH

Data
Analysis

Web
Development

1

2

3

4

Identify
Problem

AI Model

DATA INSIGHTS

# Sentiment Distribution in Mental Health Counseling Conversations

- Users frequently express negative sentiments.
- Counselors consistently respond with positive and supportive messages.
- The difference in sentiment distributions highlights the role of counselors in transforming negative emotions into more positive ones.
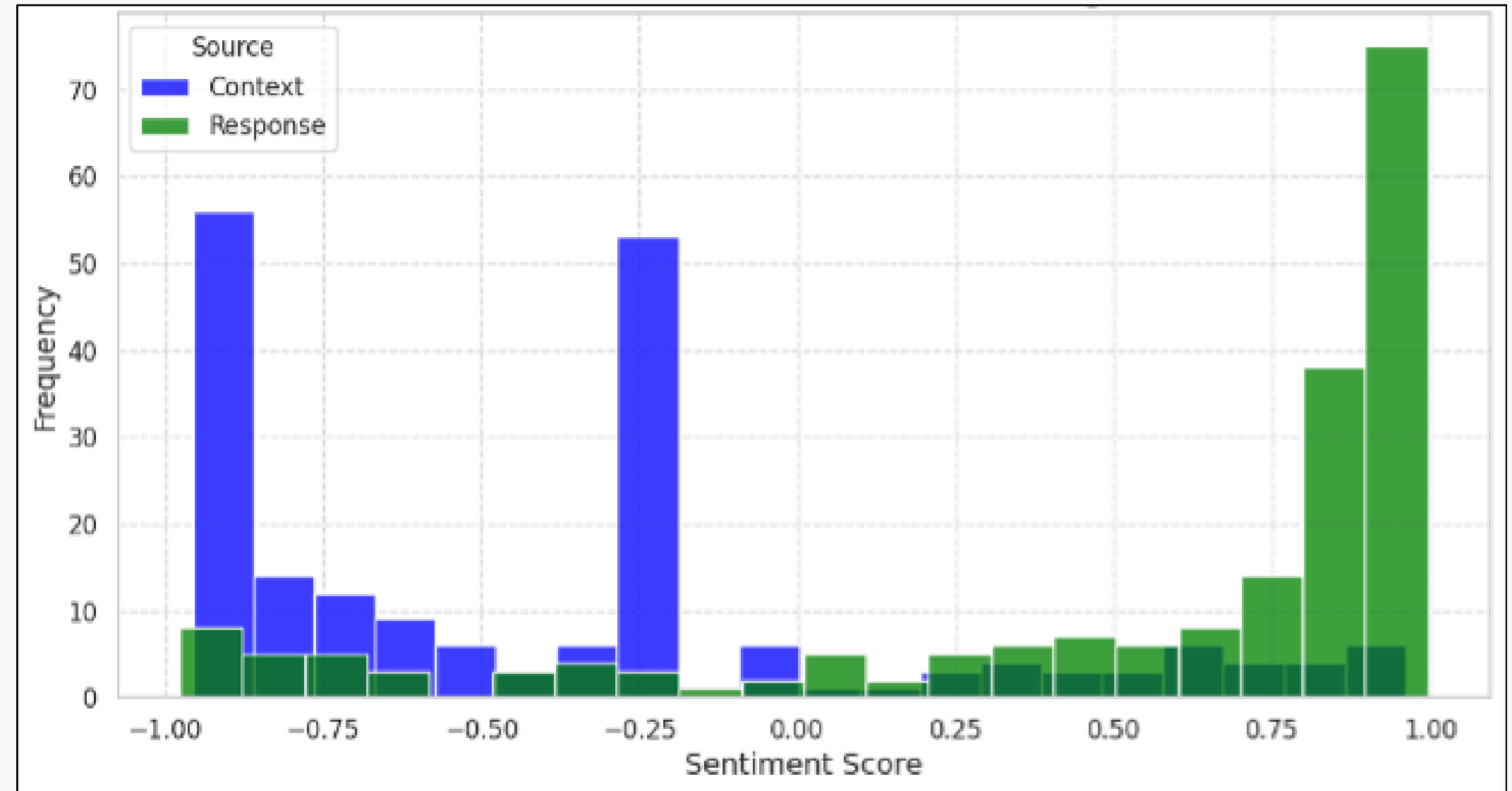
This histogram visualizes the distribution of sentiment scores for both user inputs (Context) and counselor responses (Response) in mental health counseling conversations. The sentiment scores range from -1 (strongly negative) to 1 (strongly positive), with 0 indicating a neutral sentiment.

Emotion Frequency in Mental Health Counseling Conversations

- The contrast between the two sets of bars highlights how counselors work to shift the emotional tone from negative to positive.
- Understanding the emotional landscape helps in tailoring support strategies.
- This analysis can inform the development of chatbots to better handle various emotional states.
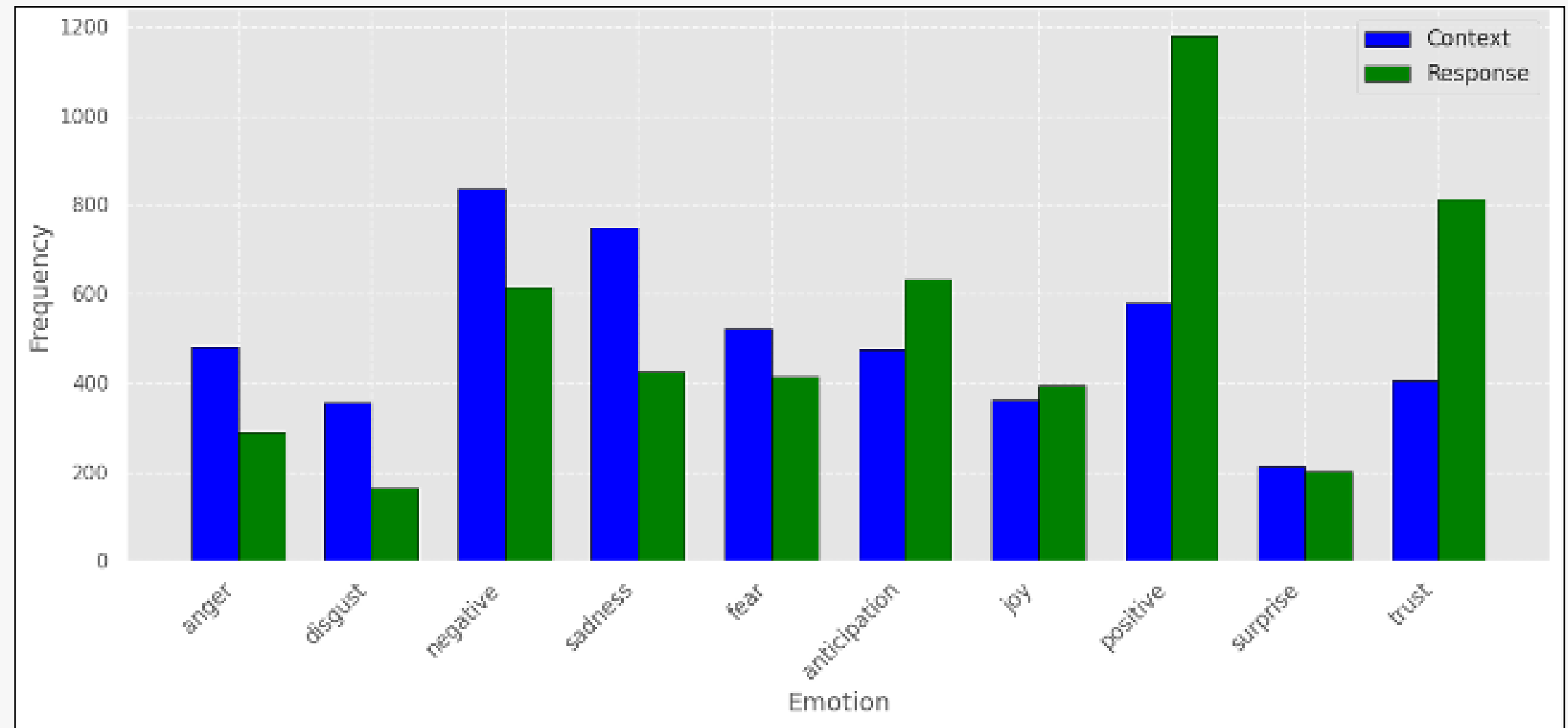
This combined bar chart illustrates the frequency of different emotions expressed in both user inputs (Context) and counselor responses (Response) within mental health counseling conversations.

HOW AI MODEL WORKS ?

- Converted dataset to vector database using embedding models for similarity search.
- Retrieved the similar context and its response and use it as an instruction or a guide for the LLM.
- Wrote a powerful and engineered prompt for the LLM.
- LLM enhances the responses and adds a natural language taste to the conversation.
- Injected chat history into the prompt for continuous and more human-like conversations.

THE FLOW OF THE WEBSITE

THE WEBSITE AND THE FRONT-END

- Home Page
- Log in/Sign up
- Choose a Plan
- Interact with Artificial Intelligence
- Consulte a specialist
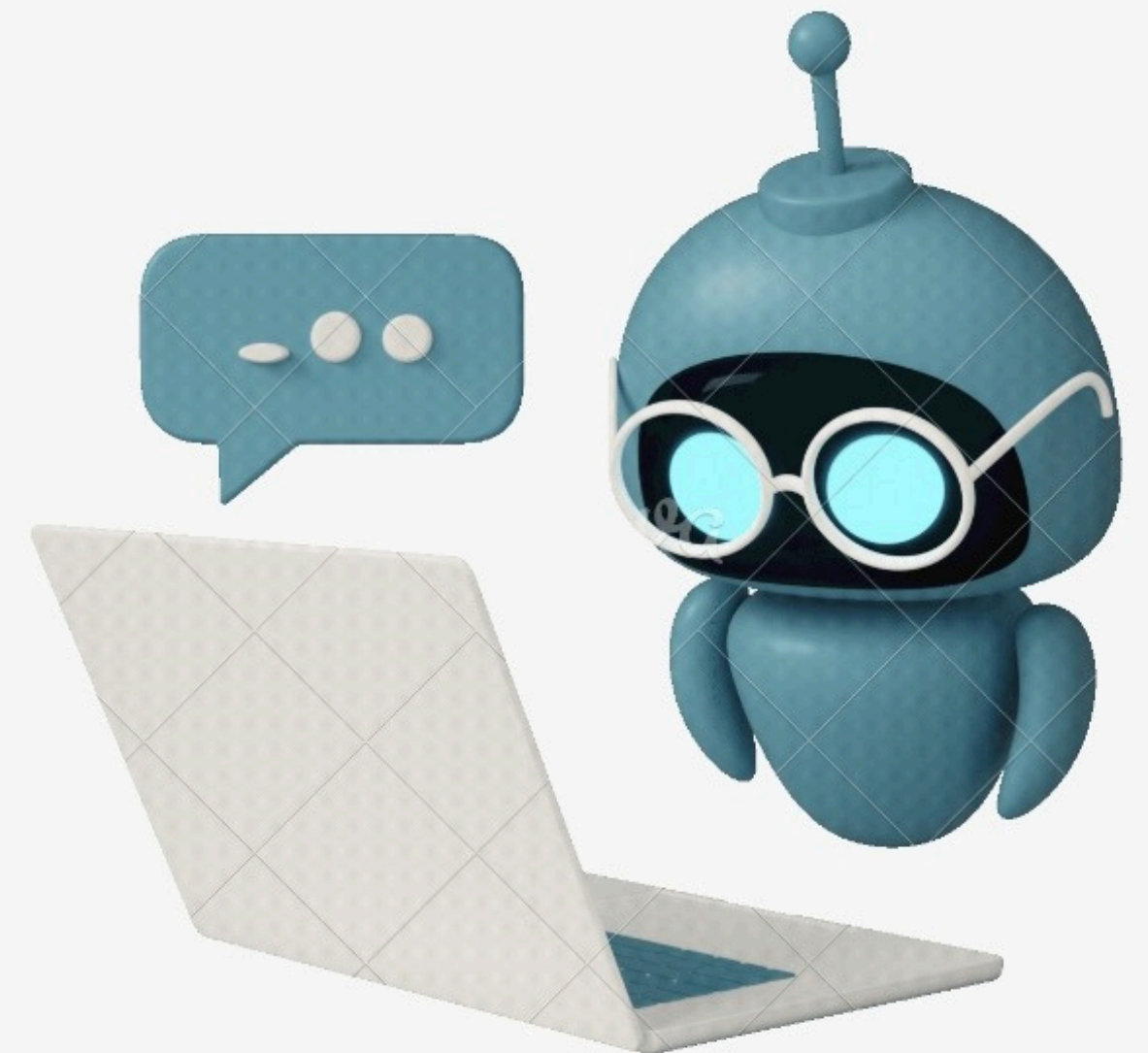
FRONT-END DEVELOPMENT

- Developed using React ⚛️ for a fast, scalable, and modular web app.
- Responsive & modern design 📱💻 for accessibility on all devices.
- Smooth user experience with AOS animations 🎨 & Bootstrap styling.
- Applied modern UI/UX principles for accessibility & engagement.

BACK-END DEVELOPMENT

- Developed using Node.js (Express.js) and Java (Spring Boot) to process user interactions.
- Connected AI with the web interface via RESTful APIs.
- Stored the users data in a centered database .
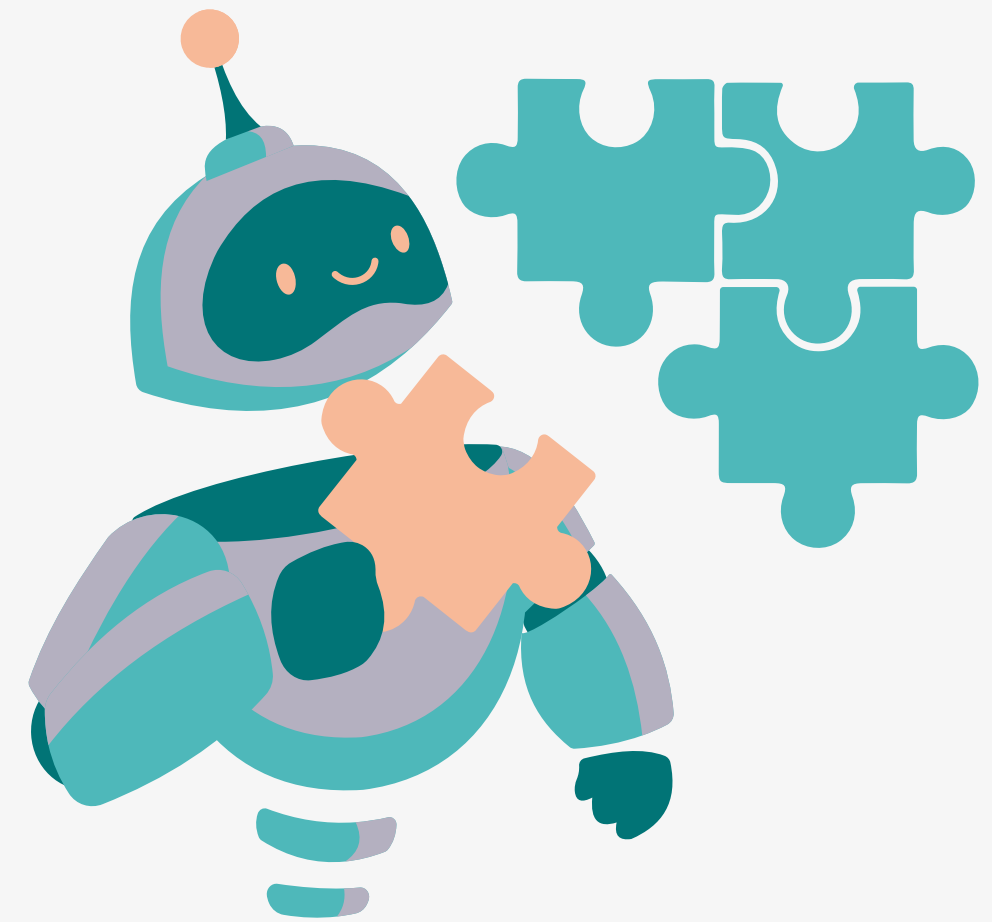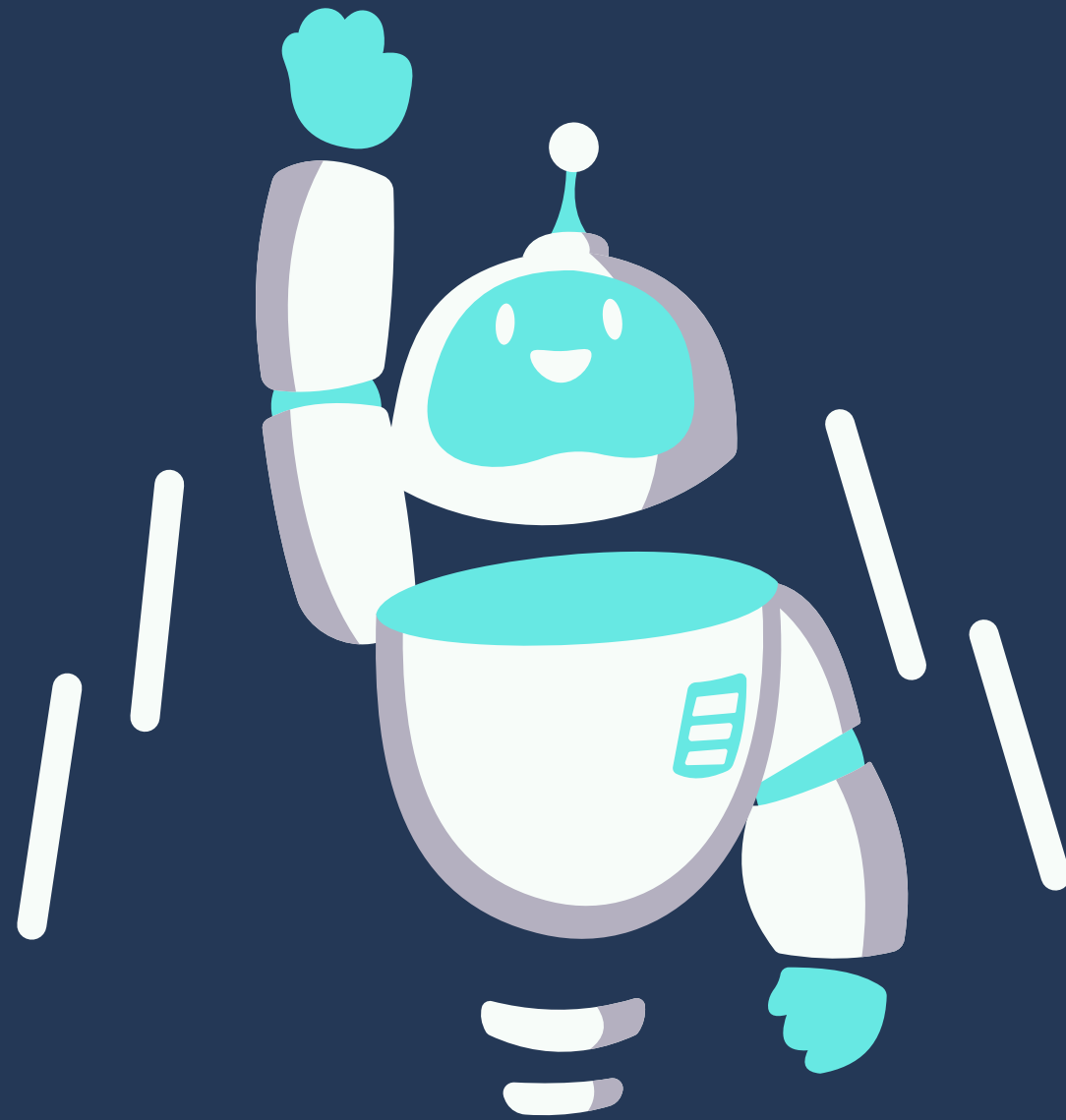
THINKING OUTSIDE THE BOX

MEET THE MINDS
BEHIND THIS ! 💡

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AI Engineer + Medical student

HAMZA BARABRAH
Data Analyst

OSAMA MANSOUR
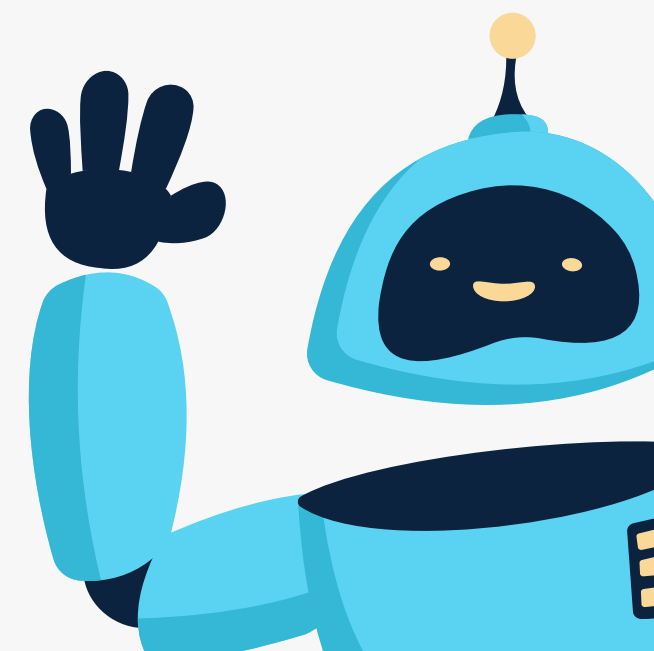leader + AI Engineer

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