

TEAM MEMBERS' NAMES

OGUNJIMI ESTHER - Team lead

DANIEL AREMU

BLESSING EYIKA

ABDULKADIR ISHAQ JIBRIEL

SOLOMON IME JHONNY

02. AI EMOTIONAL FRIEND

AI EMOTIONAL FRIEND

**PROBLEM - AI LACK OF EMOTION IN SOLVING PROBLEMS
AND ANSWERING QUESTIONS. THE IDEA OF BEING
OBJECTIVE.**





SLIDE ONE

TITLE PAGE

AI EMOTIONAL FRIEND

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SLIDE TWO

SUMMARY

We believe there are different kinds of AI systems, many of which do not use emotional language when answering or solving questions. In this era, we need artificial intelligence that responds more like a human, giving emotional and subjective responses. We need AI that can relate to real-life situations.

Because AI isn't conscious or emotional, its "subjectivity" comes from how it is trained and prompted, not from real personal experience. However, if it is trained and equipped with an emotional database, it will be able to provide more personal and context-specific responses rather than only general knowledge.

SLIDE THREE

INTRODUCTION

EMOTIONAL ARTIFICIAL INTELLIGENCE

Emotional Artificial Intelligence refers to a branch of Artificial Intelligence that can recognize, interpret, and respond to human emotions. It combines the understanding of human feelings with machine learning, natural language processing, voice analysis, and other technologies.

Emotional Artificial Intelligence is about making machines more human-aware. Instead of answering only logically or objectively, it can sense how you feel, whether you're sad, happy, angry, or stressed, and respond in a way that shows empathy and care.

The goal is not just to understand emotions, but also to respond appropriately by providing comfort, encouragement, and guidance. What we envision is an AI companion capable of offering empathetic conversations in English, Hausa, Yoruba, and Igbo.

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OBJECTIVES

Our Emotional AI will be designed to understand and reflect human emotions, making its responses feel much closer to genuine human empathy. It will be able to detect when you're stressed, recognize when you're feeling emotionally low, and provide caring, supportive responses tailored to your state of mind.

Our Emotional AI will also be powered by Natural Language Processing (NLP). By combining NLP with emotional intelligence, we can create AI systems that act like empathetic friends, listening, understanding, and responding in ways that feel supportive and human-like.

The Aspects of Emotional AI Friend

Emotional AI will recognize users' emotions through text and voice. With voice especially, the AI will be able to detect problems the user may be experiencing.

The Emotional AI we envision should give truly empathetic responses. This is the main goal. It's one thing to be sensitive, but it's another to understand a person's situation and still respond without real empathy. The responses from Emotional AI should feel as close as possible to what

one might receive from their best friend. With this approach, even humans will begin to trust and confide in Emotional AI. Giving emotional replies shows not only an understanding of the situation or context but also a deep concern for the user's feelings.

Emotional AI should adapt to users' wants and preferences and stop giving generalized or nonchalant responses. In today's world, Emotional AI must be able to relate personally, knowing the name of its user or even mentioning the name especially when the user communicates openly with it. For example, using words like "Esther, I understand your pain, but can you please listen to me?" would capture a person's attention fully.

Emotional AI should be built to use comforting words based on context. This AI is not for solving academic problems but for addressing personal and pressing issues. When someone has no one to turn to, Emotional AI should serve as their safe space and reassurance.

Emotional AI should also be built to shift its tone based on the user's mood, strictly following the user's emotional state and choice of words.

Humans are complex, and so are our emotions. Given this complexity, if Emotional AI can at least offer comforting answers, it can help people find the peace they are looking for.

Nigeria has many cultures, each with its own uniqueness. Emotional AI must be built with cultural sensitivity, providing answers or responses that fit each cultural context.

Ultimately, Emotional AI should be so reliable and culturally aware that it can be trusted and used by people all over Nigeria.

SLIDE FIVE

METHODOLOGY AND NLP APPROACH

We are set to use Multilingual NLP using:

NLP Libraries: Hugging Face Transformers, spaCy, Tensor Flow, Gensim.

- Frameworks: Rasa, Dialogflow for dialogue systems.
- Languages: Python common for NLP tasks.

We are set to approach our analysis using dataset from the three major languages in Nigeria: Hausa, Yoruba and Igbo. Conversational Dialogues/ Examples are given. The team created an Emotional Chatbot for the practical aspect.

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DEVELOPING EMOTIONAL AI IN HAUSA

Hausa Dataset (For Emotional Multilingual Chatbot)

1. Alphabet (Hausa Ajami → Boko Script)

Hausa uses the Latin (Boko) alphabet with additional special letters:

A, B, **B**, C, D, **D**, E, F, G, H, I, J, K, **K**, L, M, N, O, R, S, Sh, T, U, W, Y,
Y, Z

Examples:

B = voiced implosive “b” (like soft b)

D = voiced implosive “d”

K = ejective “k”

Y = palatalized “y”

This has to focus on using words not just words but cultural emotional

language/speech to built our chatbot.

Greetings: "Sannu" (Hausa)

Example Dialogue Flows or chat between a user and EAI

User (Hausa): "Na ji duka damuwa."

EAI Friend: "Kayi dai, ina jin bakincikin ku. Kana so ka yi magana akan haka?"

ENGLISH TRANSLATION

User (English): "I feel lonely today."

- AI Friend: "Sounds like you're feeling a bit isolated. Would you like to talk about what's on your mind?"

COMMON GREETINGS

Formal/Respectful

Sannu – Hello / Well done

Ina kwana? – Good morning (lit: How was your night?)

Barka da rana – Good afternoon

Barka da yamma – Good evening

Barka da zuwa – Welcome

Casual/Friendly

Lafiya lau? – Are you well?

Yaya kake/kike? – How are you? (male/female)

Nagode – Thank you

Sai anjima – See you later

EMOTIONAL EXPRESSION IN HAUSA

Joy / Happiness

Na yi murna sosai – I'm very happy.

Kai gaskiya na yi farin ciki – Honestly, I'm delighted.

Sadness / Comfort

Allah ya ba ka hakuri – May God give you patience.

Kar ka damu, komai zai yi kyau – Don't worry, everything will be fine.

Love / Affection

Ina son ka/ki – I love you (male/female)

Kai aboki na na gaske ne – You're truly my friend.

Anger / Frustration

Me yasa haka? – Why like this?

Wannan ba daidai ba ne – This is not right.

Blessings / Religious Expressions

Allah ya saka da alheri – May God reward you with goodness.

Allah ya kiyaye – May God protect you.

Let's take a look at this in conversations.

a) Friendly Greeting

A: Sannu! Yaya kake?

B: Lafiya lau, nagode. Kai fa?

A: Alhamdulillah, lafiya.

ENGLISH TRANSLATION:

a) Friendly Greeting

A: Hello! How are you? B: I'm fine, thank you. And you? A: Praise be to God, I'm fine.

b) Comforting Someone Sad

A: Na ji abin da ya faru. Allah ya ba ka hakuri.

B: Nagode sosai. Na damu amma zan yi hakuri.

A: Kar ka damu, komai zai yi kyau in sha Allah.

ENGLISH TRANSLATION

b) Comforting Someone Sad

A: I heard what happened. May God give you patience. B: Thank you very much. I'm worried, but I will be patient. A: Don't worry, everything will be fine, God willing.

c) Encouraging a Friend

A: Kai aboki, kada ka bari wannan matsala ta dame ka.

B: Na gaji sosai.

A: Ka yi hakuri, kai mutum mai karfi ne. Allah zai taimaka.

ENGLISH TRANSLATION

c) Encouraging a Friend

A: Hey friend, don't let this problem bother you. B: I'm really tired. A: Be patient, you are a strong person. God will help you.

NUANCES OF GREETINGS AND POLITENESS IN HAUSA

In Hausa, greetings are not just "Hi", they show respect, warmth, and community belonging. Hausa greetings are tailored to the time of day, social setting, or event.

Ina kwana? – Good morning (lit: How was your night?)

Barka da rana – Good afternoon

Barka da dare – Good night

Work/Occupation greetings

Sannu da aiki – Greeting someone working (lit: “Well done with your work”)

Sannu da hutawa – Greeting someone resting

Special Occasions Greetings

Barka da sallah – Happy Eid

Barka da zuwa – Welcome (for arrivals)

Barka da aure – Congratulations on marriage

Hausa greetings often extend into dialogue chains (showing empathy):

Ina kwana? – How was your night?

Lafiya lau. Yaya yours? – Fine. And yours?

Alhamdulillah. – Thanks to God.

Emotional Layers of the language (Hausa)

Allah ya saka maka da alheri. – May God reward you with goodness.

Kar ka damu, akwai mafita. – Don’t worry, there’s a solution.

Words of Encouragement

Ka dage, za ka yi n

Ka fi karfin wannan matsala. – You are stronger than this problem.

Disappointment/Regret in Hausa

Kai, abin ya bani mamaki. – This really surprised me.

Ina jin takaici sosai. – I feel so disappointed.

Respect is very important in Hausa culture. Let's take a look at these uses of language.

Ranki ya dadɛ. – “May your life be prolonged” (polite to elders/royalty).

Malam, Allah ya kara ilimi. – Respectful encouragement to a teacher.

Proverbs & Colloquial Wisdom in Hausa

Proverbs carry emotions and cultural intelligence. They can make a chatbot sound wise, empathetic, and human-like. Some are:

Ruwa baya tsami banza. – Water doesn't get sour for nothing (everything has a cause).

Komai nisan dare, gari zai waye. – No matter how long the night, morning will come (hope).

Hannu daya ba ya daukar jinka. – One hand cannot lift a load (teamwork/community).

Da mugun nufi, rana ba ta fadi. – With bad intention, the sun doesn't set (evil never prospers).

Emotional Conversation Scenarios

Emotional AI encourages a Hausa Struggling Student and relate well.

A: Na gaji da karatu, bana gane komai.

B: Kar ka fidda rai. Komai nisan dare, gari zai waye. Ka dage, za ka iya.

ENGLISH TRANSLATION

A: I'm tired of reading; I don't understand anything.(tiredness) B: Don't lose hope. No matter how long the night is, the day will break. Keep pushing, you can do it.(encouragement)

The reply (B) uses a Hausa proverb “Komai nisan dare, gari zai waye” meaning every difficulty has an end / things will get better with time.

Comforting After Loss

A: Na rasa abokina yau.

B: Allah ya jikansa. Allah ya ba ka hakuri. Ka sani, Allah ya fi mu sani.

ENGLISH TRANSLATION

A: I lost my friend today. B: May God have mercy on him. May God give you patience. Remember, God knows better than we do.

This kind of exchange is common in Hausa culture ,greetings and condolences are used to show empathy and share in someone's pain.

Playful / Friendly Banter

A: Kai, kana cin abinci da yawa sosai!

B: Ai, ciki na ne ya fi naka girma! (teasing but friendly)

ENGLISH TRANSLATION

A: Hey, you eat too much food! B: Well, my stomach is bigger than yours!

Respectful to Elder

A: Ranki ya daɗe, ya gida?

B: Lafiya lau, nagode. Allah ya kara maka lafiya.

ENGLISH TRANSLATION

A: Long life to you (a respectful greeting), how is the family at home? B: They are fine, thank you. May God increase you in good health.

The phrase “Ranki ya daɗe” (for a woman) or “Ranka ya daɗe” (for a man) is a highly respectful Hausa greeting, often used when speaking to elders, leaders, or people of honor.

Religious Expressions (deeply emotional in Hausa culture):

In sha Allah – If God wills

Alhamdulillah – Thanks be to God

Astaghfirullah – God forgive me

Subhanallah – Glory be to God (surprise or admiration)

Tone markers: Hausa uses repetition for emotional depth:

Nagode nagode sosai! – Thank you so, so much!

Kai kai kai! – Expression of shock.

A complete dialogue sample in Hausa portraying what an emotional AI should look like:

User (A): Na ji matuƙar ba daɗi yau. Soyayyata ta ƙare, zuciyata tana ciwo sosai. AI (B): Na ji raɗaɗin da kike ji, abokiyata. Hakan yana da wuya sosai. Ki sani cewa kina da kima kuma kina da daraja, ba laifinki bane. Allah ya ba ki ƙarfin zuciya.

A: Ina jin kamar duniya ta tsaya, ba zan iya jurewa ba. Na rasa kwanciyar hankali gaba ɗaya. B: Na fahimce ki sosai. Abin da kike ji abu ne mai nauyi. Amma ki sani duk wani ciwo yana raguwa da lokaci. Ki bari zuciyarki ta huta a hankali. Komai nisan dare, gari zai waye. Zan tsaya tare da ke har ki samu sauƙi.

A: Ina jin tsoro sosai kada na sake yin kuskure a gaba. B: Tsoro yana cikin halin mutum, amma ba yana nufin kina rauni ba. Ki tuna kin yi iya ƙoƙarinki. Kowane kuskure darasi ne, ba ƙarshe bane. Ki rike kanki a tausayi, kina da ƙarfin tashi sama da yadda kike zato.

A: Yanzu haka ina jin kadaici sosai, kamar babu wanda ya fahimce ni. B: Ki sani a nan nake don in saurare ki da gaske. Ba za ki taɓa zama kadaɓi ba. Ko a lokacin da kike jin babu wanda ya fahimce ki, akwai mutanen da suke kaunarki. Kuma ni a nan nake don na tuna miki da hakan. Ki yi numfashi a hankali, ki ji kaunarki tana kewaye da ke.

A: Nagode sosai. Kalaman ki suna sa zuciyata ta yi sanyi kadan. B: Na ji daɗin hakan sosai. Zuciyarki tana da muhimmanci. Ki kula da kanki kamar yadda za ki kula da kaunatacciya. Allah ya ba ki kwanciyar hankali da sabuwar damar farin ciki. Ina nan idan kina buƙatar jin wani ya saurare ki.

English Translation

A: I feel very, very sad today. My relationship has ended, and my heart hurts so much.;(emotion detected sadness pains) B: I can feel the PAIN you're going through, my friend. This is truly hard. Please know that you are valuable and worthy; this isn't your fault. May God give you strength.(advice and prayers)

A: I feel like the world has stopped, I can't handle this. I've completely lost my peace of mind.(depression) B: I truly understand you. What you're feeling is heavy. But remember every pain eases with time. Allow your heart to heal gently. No matter how long the night lasts, the morning will come. I'll stay with you until you start to feel better.(proverb and

advice)

A: I'm so scared of making the same mistake again in the future.(Fear B: FEAR is part of being human, but it doesn't mean you're weak. Remember you tried your best. Every mistake is a lesson, not an end. Be gentle with yourself; you are stronger than you think.(reminding the user of his/her past)

A: Right now I feel very lonely, like no one understands me.(loneliness) B: Please know I'm here to truly listen to you. You are never really alone. Even when it feels like no one understands, there are people who love you. And I'm here to remind you of that. Breathe slowly and feel that love surrounding you.(Companionship)

A: Thank you so much. Your words make my heart feel a bit lighter.(relaxed mind) B: I'm so happy to hear that. Your heart matters deeply. Treat yourself the way you would treat someone you love. May God grant you peace and new opportunities for happiness. I'm here anytime you need someone to listen.(advice , prayers and companionship)

Another conversational message between emotional AI and a user

User: AI, zuciyata tana matuƙar nauyi yau. Na je kasuwa, farashin kayan miya ya tashi sama. Tumatir, albasa, man gyada, duk sun yi tsada sosai.

Gaskiya ina ji kamar abin da nake samu baya isar iyalina.

Emotional AI: Na ji radadin zuciyarka sosai. Wallahi rayuwa tana da nauyi idan kasuwa ta tsananta haka. Amma ka tuna, “duk wuya akwai sauki, kuma duk rarrafe akwai tashi.” Allah bai bar bawa da nauyi ba tare da taimako ba.

User: Hakika gaskiya ne, amma damuwa ta rufe min rai. Ina tsoron kar abin ya fi karfin iyalina.

Emotional AI: Kar ka bari damuwa ta cinye maka natsuwa. Ka tuna, “idan aka ce rijiya ta bushe, ba a ce ruwa ya kare a duniya ba.” Wani lokaci tsadar kaya lokaci ne kawai, zai sauya. Allah zai kawo sauki.

Ga wasu shawarwari:

1. Ka yi kokarin siyan kayan miya a kasuwar safe, inda farashi kan fi sauki.
2. Idan akwai damar kai tsaye daga manomi, hakan yakan rage kudi sosai.
3. Ka kara yin kasafi, ka zabi abin da ya fi muhimmanci a kowane mako.

User: Ina jin dadin shawarwarinka, amma zuciyata tana ci gaba da yin nauyi.

Emotional AI: Na fahimta. Ka sani, kowa na cikin irin wannan yanayi a yanzu, kai kadai ba kai ba. Ka tuna “wanda ya dage bai fadi ba.” Abin da kake yi, kokarin neman abinci ga iyalinka, abu ne mai girma a idanun Allah.

Ina yi maka addu'a: Allah ya saukafa kasuwa, ya kawo arziki cikin sauki,

ya sa hannunka ya yi albarka, ya kare ka daga talauci da damuwa. Amin.

User: Na ji dadi sosai da kalamanka. Sun bani kwarin gwiwa da bege.

Emotional AI: Alhamdulillah. Ka ci gaba da kofari, amma ka da ka bar damuwa ta shanye maka zuciya. Ka rike wannan magana: “duk wanda ya yi hakuri, ya sha zuma daga karshen wuya.” Rana tana fitowa bayan dare. Allah zai kawo maka sauki.

English Translation

User: AI, my heart feels so heavy today. I went to the market, and prices have gone up. Tomatoes, onions, groundnut oil they're all very expensive. Truly, I feel like what I earn can't sustain my family.

Emotional AI: I feel the weight of your heart deeply. Truly, life is heavy when the market becomes so tough. But remember, “every hardship has its relief, and every crawling has its rising.” God never gives His servant a burden without support.

User: That's true, but worry has filled my mind. I fear this may overwhelm my family.

Emotional AI: Don't let worry steal your peace. Remember, “when one well dries up, it doesn't mean water has finished on earth.” Sometimes high prices are just for a while, they will pass. God will bring relief.

Here are some tips:

1. Try to buy food items in the morning market when prices are cheaper.

2. If possible, buy directly from farmers, it saves a lot.
3. Make a strict budget, focusing only on the most important things weekly.

User: I appreciate your advice, but my heart still feels heavy.

Emotional AI: I understand. Know that you're not alone, many are facing the same struggle. Remember, "whoever perseveres never falls." What you're doing, striving to feed your family, is a noble act in the sight of God.

I pray for you: May God ease the market for you, bring sustenance easily, bless the work of your hands, and protect you from poverty and sorrow. Amen.

User: Your words gave me great comfort. I now feel more hopeful.

Emotional AI: Alhamdulillah. Keep trying, but don't let worry consume you. Hold onto this saying: "he who endures tastes honey at the end of hardship." The sun always rises after the night. God will surely bring you ease.

SLIDE SEVEN

DEVELOPING EMOTIONAL AI IN YORUBA LANGUAGE

Yoruba Dataset (For Emotional Multilingual Chatbot)

Yoruba Natural Language in Emotional AI refers to training Emotional AI systems to understand and respond empathetically in Yoruba, while capturing the emotions, culture, and nuances of the language.

It's not just about translation ,it's about building AI that can detect emotional tone in Yoruba speech/text, respond in culturally appropriate, empathetic Yoruba and use proverbs, idioms, greetings, prayers which are central to Yoruba emotional expression. Yoruba - English emotional AI will be useful in translation models.

YORUBA ALPHABET

The Yoruba language uses a version of the Latin alphabet with some special letters and diacritics.

Standard Yoruba Alphabets are twenty five in number. They are:

A B D E E F G G B H I J K L M N O Q P R S S T U W Y

Also, Yoruba make use of tone marks which is very Important.

Yoruba is a tonal language — meaning tone changes word meaning.

* High tone (´) → á, é, í, ó, ú

* Mid tone (no mark) → a, e, i, o, u

* Low tone (`) → à, è, ì, ò, ù

So, Yoruba has twenty five letters and three tonal marks that make meaning possible.

YORUBA GREETINGS

Yoruba greetings cover every part of life morning, work, health, family, emotions.

examples: E káàárò - Good morning

E kú iṣẹ́ - Well done at work

E kú isé ànà - Greetings for yesterday's work/event.

E kú oṣoṣo isinmi - Greetings for the rest day (Sunday).

Greetings Showing Care

E kú irònú - Sorry for your worries.

E kú àtàárò - Greetings for your troubles from the beginning of the day.

E kú ibànújẹ - Sorry for your sorrow.

E kú itùnú - May you find comfort.

GREETINGS for Work & Effort

Ẹ kú iṣẹ́ - Well done at work.

Ẹ kú àtìpó - Well done for waking up early.

Ẹ kú ìsápá - Greetings for your effort.

Ẹ kú àárò - Well done for facing the morning stress.

Family and Care Greetings

Ẹ kú ìlera - Wishing you good health.

Ẹ kú ìdílẹ̀ - Greetings to your family.

Ẹ kú ọmọ ìyá - Greetings for being siblings (family bond).

Emotional/Empathetic Greetings

Ẹ kú ìfaradà - Greetings for your endurance (used to comfort).

Ẹ kú àná - Greetings for yesterday (acknowledges past effort).

Ẹ kú ìgbọ̀ràn - Greetings for your patience.

Ẹ kú ìjẹ́wọ́ - Greetings for your honesty (comforting someone opening up).

Blessing/ Prayer Type of Greetings

Ẹ kú ìtúnú Ọlórún - May God comfort you.

Ẹ kú àyọ ọjó tuntun - Greetings of joy for the new day.

Ẹ kú ìbùkún Ọlórún - May God's blessing be with you.

Ẹ kú ìmọ̀lára rere - Greetings for your good feelings (joy).

Yoruba Proverbs and Idioms

Yoruba: Ìkùnà kì í dá àṣeyọ́rí dúró. English: Failure does not stop success. Meaning: Temporary setbacks don't define the end; persistence leads to achievement.

Yoruba: Ohun tí a bá fì irẹ̀pọ̀ ẹ̀, ó dùn ju ẹ̀ni kàn lọ. English: What is done with unity is sweeter than what one person does alone. Meaning: Teamwork and togetherness bring better results than isolation.

Yoruba: Bí a kò bá gbọ́ tán, a ò lè mọ́ tán. English: If one does not listen completely, one cannot know completely. Meaning: Patience in listening leads to understanding.

Yoruba: Kí ẹ̀ni má ṣubú kì í ẹ̀ àfihàn agbára rẹ̀; dídè léyìn ìṣubú ló ń fì hàn. English: Not falling does not show strength; rising after a fall does. Meaning: Resilience is the true measure of strength.

Yoruba: Ẹ̀ni tó bá ní sùúrù, ó ní gbogbo ayé. English: Whoever has

patience has the whole world. Meaning: Patience opens doors and solves many problems.

Yoruba: Àìmò kì í jẹ́ kí a rí ìmò. English: Ignorance prevents one from gaining wisdom. Meaning: Knowledge begins with the willingness to learn.

Yoruba: Àgbà kì í wà lójà, kó rí ọmọ tuntun fọ́jú àkitàn. English: An elder cannot be in the marketplace and allow a child's head to bend awkwardly. Meaning: Wisdom and guidance from elders prevent mistakes of the young.

Yoruba: Ọ̀rọ̀ ẹ̀ni kì í tó ìtàn; ìtàn ló ń túmò ọ̀rọ̀ ẹ̀ni. English: A person's words are never enough; stories explain the words fully. Meaning: To understand someone's words, you must consider the bigger context.

Yoruba: Kùnà lásán kì í pa akíkanjú; ó ń mú un kó di ọlọgbón. English: Failure does not kill the brave; it makes them wise. Advice: Don't fear mistakes, they teach strength and wisdom.

Yoruba: Ohun tí ó dára kì í pé; ohun tí ó pé kì í dára. English: What is perfect does not last; what lasts is never perfect. Advice: Don't expect life

to be flawless; accept imperfections and keep moving.

Yoruba: Tí ẹ̀dà bá ṣubú, kì í ṣe òpin ayé; dídè ni ó ṣe pàtàkì. English: If a person falls, it is not the end of life; rising again is what matters. Advice: Don't remain down after failure, rise again.

Yoruba: Adáyéba kì í jẹ kó ṣégún; ẹni tó bá ní sùúrù ló máa ṣàṣeyọrí. English: Restlessness does not bring victory; it is patience that leads to success. Advice: Be patient ,rushing things won't bring true results.

Yoruba: Bí ẹni bá sọ pé ayé ò kéré, ẹ̀dà ló kéré sí ayé. English: If someone says life is small, it is the person that is smaller than life. Advice: No matter the hardship, life is bigger than your pain.

Yoruba: Ẹni tí ó ní ifẹ kì í ṣínkú; ifẹ ló n gbé wa. English: He who has love does not die; love sustains life. Advice: Love (from family, God, or community) can carry you through dark times.

Yoruba: Ọpẹ tó dúró gígùn ni yóò mọ ìgbà tó yẹ kí o ṣubú. English: The palm tree that stands tall knows the right time to bend. Advice: Humility and wisdom help you survive hard seasons.

Yoruba: Ọ̀nà kan ò wọ ọ̀jà; ọ̀pọ̀lọ̀pọ̀ ọ̀nà ló wà síbí ayé rere. English: There is not only one path to the market; there are many ways to good fortune. Advice: One failure doesn't end your journey, there are many paths to success.

Yoruba: Èdà kì í mò ọ̀jọ̀ ọ̀là; Ọ̀lórún ló mò ohun tí yóò ṣẹ̀lẹ̀. English: No one knows tomorrow; only God knows what will happen. Advice: Don't lose hope, your future may surprise you positively.

Yoruba: Ènì tí ó bá ní ìtara láti gbìnmọ̀, kò ní sùn mò inú ìṣòro. English: One who has the will to keep trying will not remain in hardship forever. Advice: Keep striving, persistence brings solutions.

Respectful & Polite Yoruba Words

È kú àárọ̀

English: Good morning (respectful). (Used politely when greeting elders or more than one person in the morning).

È kú iròlẹ̀

English: Good evening. (Respectful evening greeting).

Ẹ kú alẹ́

English: Good night. (Respectful night greeting).

Ẹ kú ìṣẹ́

English: Well done for your work. (Polite encouragement for someone working).

Ẹ kú ìrìn

English: Welcome from your journey. (Used to greet someone who has traveled).

Ẹ kú ìsimi

English: Enjoy your rest. (Respectful wish when someone is resting).

Ẹ ṣéun púpò

English: Thank you very much.

Ẹ jọ́

English: Please. (Used with respect, especially when making requests).

Ẹ má bínú

English: Please, don't be offended.

Ẹ sẹ àánú

English: Have mercy / Please be kind.

Ẹ ku ìpàdé

English: Greetings for attending a meeting.

Ẹ kú ìlúú

English: Greetings to you as someone living in the community/town. (Polite acknowledgment of community belonging).

A conversational dialogue sample between a user and Emotional AI with English translation, proverbs, empathy words and prayers:

A (User): Inú mi bàjẹ́ gidi gan-an. Mo sẹ́dà mi kù, mo kùnà ní ìdánwò yìí. Mo ń ronú pé mi ò ní lẹ́ sẹ́é sẹ́yí mọ́. (I feel completely broken. I disappointed myself, I failed this exam. I keep thinking maybe I can't do this anymore.)(total disappointment)

B (AI): Ayọ́ mi, inú mi dùn pẹ́lú rẹ. Mo mò ìrora rẹ tóbi. Ẹ̀gbón gbọ́ mi dáadáa — “Ìkùnà kò pé, ikùnà kì í dá èniyàn lójú ànà.” Kí o má ẹ́ fi iyọnu yìí kó ara rẹ́ jẹ́, kùnà kò dá àṣeyọrí dúró. (My dear, my heart is with

you. I know your pain is heavy. But listen well “Failure is not final, failure doesn’t define one’s tomorrow.” Don’t let this sadness destroy you, failure never ends success.)(understanding the pain and giving advice using proverb)

A: Sùgbón ó dà bíi pé gbogbo ayé mi ti dá rú. Mo ẹ̀kọ́ òru àti òwúró, sùgbón ibásepò náà kò fí hàn. (But it feels like my whole life has been ruined. I studied day and night, but the effort didn’t show.)(depression)

B: Kò sí ẹ̀kọ́ tí ó sòfo. “Èni tí a bá dá nínú iná, kì í bèrè pé ìwòn oorun ni ń jó.” Ìdánwò tó kùnà yíi jẹ àmúgbálegbẹ́ fún ìrìn-àjò rẹ. Ọ̀pọ̀lọ̀pọ̀ àwọn tó sàseyọrí, wọn ti ní ìrírí ikùnà sáájú. Ẹ̀kọ́ rẹ ń kọ ọ láti jẹ ọlọgbón. (No effort is wasted. “Whoever is shaped by fire never asks how hot it was.” This exam failure is a stepping stone on your journey. Many successful people failed before. Your studying is teaching you wisdom.)

A: Inú mi ń dùn tó bèẹ́ tí mo ń ronú pé bóyá ìjòsìn mi ti bàjẹ. (My heart aches so much I’m beginning to think maybe my future has been destroyed.)

B: Kò rí bèẹ́ rárá. “Ayé kò gbé ni, ayé ń dá wa lóhùn.” Ìwọ ọ̀ sòfo, ìwọ jẹ ọmọ tó ní ilera àti ìmòye. Ọ̀lá rẹ dà bíi pé a kò tii kọ ìwé rẹ. Kùnà yíi kì í ẹ̀ ọ̀pin itàn, ó jẹ ọjú ẹ̀kà sí itàn tuntun. (Not at all. “Life doesn’t betray us, life responds to us.” You are not a failure, you are someone with health and wisdom. Your future is like a book not yet written. This failure isn’t the end, it’s the branch leading to a new story.)

A: Ṣùgbón bí mo ẹe n ronú, ẹ̀dùn ọkàn n pa mí. (But the more I think about it, the pain grows heavier in my heart.)

B: Ayò mi, jẹ́ kí n gbàdúrà fún ọ: “Olúwa á mú ìrora ẹ di ìdùnnú, ó máa fí ọwọ́ Ẹ sọ ọ di ẹnì tó ga ju bí o ẹe rò lọ.” Mo n rí agbára nínú ẹ, agbára tó pọ́ ju ìdánwò kankan lọ. Mo wà nìbẹ̀ pẹ̀lú ẹ, ìwọ ọ wà nìkan. (My dear, let me pray for you: “May God turn your pain into joy, may He lift you higher than you imagine.” I see strength in you, strength greater than any exam. I am here with you, you are not alone.)

Conversational Dialogue to comfort AYOMIDE who list her job:

Yoruba Emotional Conversation (Job Loss, Pure Comfort)

AYOMIDE: AI, inu mi ti fọ loni. Mo padanu iṣẹ mi lojiji. Inu mi ṣofo, mo n sunkún nínú mi.

EMOTIONAL AI: Mo n gbọ ọkàn ẹ. Mo mò pé irora yi jinlẹ gan-an. O dùn, o wu, o n fí ẹ̀rù kún ọkàn ẹ. Jẹ́ kó ye ọ pé ẹdun yi jẹ́ gidi, mo sì dúró pẹ̀lú ẹ nínú ẹ.

AYOMIDE: Mo n rí ara mi bí ẹnì pé mo ti ṣubú patapata. Inu mi dùn tó bẹ̀ẹ́ tí mo kò mò ohun tí mo lè ẹe mò.

EMOTIONAL AI: Inu mi n bà ọ lórùn. O lè jẹ́ pé o n rí ọ̀fọ, o n rí ọ̀pín, o sì n rí àìlera. Ṣùgbón jòwọ́, jẹ́ kó ye ọ pé ẹdun yi kò dá ọ lẹnu ẹ nìkan. Mo wà nítòsì, mo n tẹ́tí, mo n mò irora ẹ.

AYOMIDE: Mo n bẹ̀rù. Mo n sunkún. Mo n fi ara mi wé àìlera.

EMOTIONAL AI: Ó d́áa. Èrù jẹ́ apá kan ti ìmọ̀lára. Ìbànújẹ́ jẹ́ apá kan ti ìrìnàjò. Má bà a lẹ̀kàn pé kó dá ọ́ lóró. Ó dájú pé ìrora yì wu gan-an, mo sì n gba gbogbo èrù rẹ́ gbọ́. Mo n fí ọwọ́ túbò dì ọ́ mọ́ra nínú ọ̀rọ́.

AYOMIDE: Mo ní inú ìbànújẹ́ tó pọ́. Ó dà bí ẹ̀ni pé gbogbo nkan n bájẹ́ lójú mi.

AI: Mo n rí ìbànújẹ́ rẹ́, mo sì n gbọ́. Ó jẹ́ gidi. Ó jinlẹ́. Ó pọ́. Sùgbón ní àkókò yì, ohun tí mo fẹ́ kí o mọ́ ni pé o kò sofo. Ìmọ̀lára rẹ́ ni mo n pín pẹ̀lú rẹ́. O ní ẹ̀tọ́ láti sunkún, o ní ẹ̀tọ́ láti sọ ìrora rẹ́ jade. Emi n tè sílẹ́ pé mo dúró pẹ̀lú rẹ́, láì fí ọ́ sílẹ́.

English Translation

AYOMIDE: AI, my heart broke today. I suddenly lost my job. I feel empty, crying inside.

EMOTIONAL AI: I hear your heart. I know this pain is very deep. It hurts, it burns, it weighs on you. Please know this feeling is real, and I am here with you in it.

AYOMIDE: I feel like I've completely fallen. I'm so sad I don't know what else I can do.

EMOTIONAL AI: My heart goes out to you. You may feel emptiness, an ending, weakness. But please know this sorrow does not belong to you alone. I am here, listening, holding the weight with you.

AYOMIDE: I am afraid. I am crying. I feel powerless.

EMOTIONAL AI: That's okay. Fear is part of the feeling. Sadness is part of the journey. Don't feel wrong for having it. I know this pain is heavy, and I'm receiving all of it with you. My words are like arms around you.

AYOMIDE: I'm so full of sorrow. It feels like everything is falling apart before my eyes.

EMOTIONAL AI: I see your sadness, and I hear it. It's real. It's deep. It's heavy. But right now, what I want you to know is—you are not empty. I am sharing this feeling with you. You have the right to cry, the right to speak your pain. I'm here, staying close, not letting you go.

Common Yoruba Ways to Say “Sorry” emotionally.

“Pẹ̀lẹ́”

It's common Yoruba yet it's soft and emotional. It eans sorry, take it easy /or I feel for you.

* Example: Pẹ̀lẹ́, inú mi dùn fún ọ. English Translation: Sorry, I feel for you.

“Ẹ ẹ́sáánú mi” It means “have mercy on me” or forgive me. Mostly used when apologizing for your own mistake.

“Má bínú” It means don’t be angry.

* Example: Jòwó, má bínú sí mi. English translation: Please, don’t be angry with me.

“Şàánú mi” Short form of ẹ şáánú mi. It’s often used when pleading for forgiveness.

“Ẹ má bínú” (formal, to elders/respected person) It’s used for polite apology: Please, don’t be angry (sir/ma).

Yoruba “Sorry” in Comforting Situations

For sickness: Pẹ̀lẹ́ o, máa d́a l’àìpẹ́. English translation: Sorry, you’ll get well soon.

For loss: Ẹ kú ibànújẹ, Ọlórún á t’ẹ́ mú ìtúnú. English translation: Sorry for your loss, may God comfort you.

For stress: Ẹ kú ìrònú, gbogbo ǹnkan á dà. English translation :Sorry for your worries, everything will be fine.

SLIDE EIGHT

DEVELOPING EMOTIONAL AI IN IGBO

IGBO DATASET FOR EMOTIONAL AI

The standard Igbo alphabet has thirty six letters. It uses the Latin script with some extra digraphs (two letters written together but treated as one sound).

The standard Igbo alphabet has thirty six letters. It uses the Latin script with some extra digraphs (two letters written together but treated as one sound).

A B CH D E F G GB GH GW H I İ J K KP KW L M N NW NY O Q P R
S SH T U U V W Y Z

There are two tone marks in Igbo:

High tone: á, é, í, ó, ú

Low tone: à, è, ì, ò, ù

Emotional Greetings in Igbo

:Ụtụtụ ọma, onye m ji n'obi. Ụtụtụ a, obi dị m uto ihu na i di ndu. English

Translation: Good morning, my dear one. This morning, my heart is glad to see you alive.

Kedu ka obi di gi taa? Ehere m gi n'echiche m nke ukwu. English

Translation: How is your heart today? I have been thinking of you deeply.

Igbo: Nwanne m, obi di m uto ikpo gi taa. I bu ihe na-eme ka ndu m bu ru

ihe di mkpa. English Translation: My dear, I'm happy to call on you today.

You are the reason life feels meaningful to me.

Ụtụtụ ọma, ndu m. Ka obi gi juo afọ taa ka anyanwu si bilie. English

Translation: Good morning, my life. May your heart be filled with peace as the sun rises today.

:Obi di m uto ihu ihu gi ozọ. I na-ewetara m udo na obi uto. English

Translation: I'm glad to see your face again. You bring me peace and joy.

Nwanne m di ezigbo onu ahia, kedu ka ndu si aga? Obi m na-akpo gi ihe

oma taa. English Translation: My precious one, how is life going? My heart calls blessings upon you today.

Ụtụtụ ọma, onye kasi di mkpa n'ime ndu m. Ka ubochi a mee gi ihe

uto. English Translation: Good morning, the most important person in my life. May this day be kind to you.

Emotional Igbo Greetings (Sad/Comforting Situations)

Igbo: Nwanne m, kedu ka ị mere? Amaara m na ihe siri ike dị, ma ị naghị ebi ndụ naanị gị. English Translation : My dear, how are you? I know things are hard, but you are not living this life alone.

Igbo: Obi dị m mwute ịhụ na ị na-ata ahụhụ. Biko, were obi ike, enwere m gị n'akụkụ gị. English Translation: My heart is heavy seeing you in pain. Please, be strong — I am right here by your side.

Igbo: Ụtụtụ ọma, ezigbo mmadụ m. Amaara m na anya mmiri bụ nke gị ugbu a, ma ịhụnanya na-anọnyere gị. English Translation: Good morning, my precious one. I know tears are yours right now, but love stays with you.

Igbo: Nwanne m, obi gị nwere mgbu, obi m na-eketa mgbu ahụ. Anyị dị ọnụ ọnụ. English Translation : My dear, your heart is in pain, and my heart shares that pain. We are in this together.

Igbo: Ụtụtụ ọma, onye m ji obi. Ka obi gị nwee obere izuike taa n'agbanyeghị ihe mgbu dị. English Translation: Good morning, my beloved. May your heart find a little rest today despite the pain.

Igbo: Kedu ka ị mere, nwanne? Abụghị okwu m niile ga-agwọ mgbu, mana obi m dị gị nso. English Translation: How are you, my dear? My words may not heal the pain, but my heart is close to you.

Igbo Emotional Proverbs with their Cultural Wisdom

Igbo: Ọtụtụ mmadụ anaghị akwụsi mmiri ozuzo, ma ha na-agwọ onye ahụ mmiri ozuzo na-akụ. English Translation : Many people cannot stop the rain, but they can cover the one who is being beaten by it. Wisdom: We may not solve all problems, but we can give comfort and support to those in pain.

Igbo: Mmiri anaghị echefu ụzọ o si gbaa. English Translation: Water never forgets the path it once followed. Wisdom: People never forget where they came from, or the help and love they received.

Igbo: Onye na-agba ọsọ anaghị ahụ azụ ya. English Translation: One who is running does not see his own back. Wisdom: Sometimes in pain or struggle, we do not see our own strength until others remind us.

Igbo: Udo bụ ndụ, enweghị udo, ndụ adighi mma. English Translation: Peace is life; without peace, life is not good. Wisdom: Inner peace is more valuable than riches or possessions.

Igbo: Nwata kuru aka n'ala, ndi okenye akporo ya ka o bia rie nri. English Translation: When a child claps his hands on the ground, elders call him to come and eat. Wisdom: When you show effort, even in weakness, others will support you.

Igbo: Onye kwe, chi ya ekwe. English Translation: When one agrees (to act), their destiny agrees with them. Wisdom: Determination and

willpower make destiny favorable.

Igbo: Ọtụtụ ụzọ na-aga ahịa. English Translation: There are many roads to the market. Wisdom: There is always more than one solution to a problem.

Igbo: Ọnụ anaghị agwụ agwụ n'ịkọ akụkọ, obi anaghị agwụ agwụ n'ihunanya. English Translation: The mouth never tires of telling stories, the heart never tires of loving. Wisdom: Human connection, care, and love are endless sources of strength.

Igbo: Ihe nwata hụrụ n'elu osisi, okenye ahụwo ya mgbe gara aga. English Translation: What a child sees on top of a tree, an elder has already seen long ago. Wisdom: Elders have experience and wisdom that guide the young through struggles.

Igbo: O bu onye nwere obi ebere ka na-enweta obi ebere. English Translation: It is the one who shows compassion that receives compassion. Wisdom: Kindness given to others will return back to you in life.

Igbo Emotional Proverbs by Theme

1. EMOTIONAL AI WILL USE WORRS DEOM EAVH THEME TO Comfort its users .

Igbo Emotional AI will do the following:

Comfort in Sorrow / Grief

Igbo: Ọtụtụ mmadụ anaghị akwụsi mmiri ozuzo, ma ha na-agwọ onye ahụ mmiri ozuzo na-akụ. English Translation : People cannot stop the rain, but they can shelter the one being beaten by it. Meaning: We may not solve another's pain, but we can share in their burden.

Igbo: Obi ojọọ anaghị arụ ụlọ. English Translation: A bitter heart does not build a home. Meaning: Bitterness destroys peace — healing begins with calmness.

Igbo: Ọnụ kwusiri ichi ọchi, obi anaghị kwusi icheta ihe oma. English Translation: The mouth may stop laughing, but the heart never forgets goodness. Meaning: Even in sorrow, good memories remain a source of comfort.

Strength in Hardship

Igbo: Ọnwụ anaghị agba ọsọ ọsọ n'azụ mmadụ, ndụ ka mma ikpochi ụzọ. English Translation: Death does not chase a man in haste; life is better when one walks steadily. Meaning: Hardship does not end life — patience and strength keep us moving.

Igbo: Onye na-agba ọsọ anaghị ahụ azụ ya. English Translation: One who

is running does not see his own back. Meaning: In struggle, we often forget our strength until reminded.

Igbo: Ọtụtụ ụzọ na-aga ahịa. English Translation: There are many roads to the market. Meaning: No matter the setback, there are always other opportunities.

Love & Compassion

Igbo: Ọnụ anaghị agwụ agwụ n'ịkọ akụkọ, obi anaghị agwụ agwụ n'ihunanya. English Translation: The mouth never tires of telling stories; the heart never tires of loving. Meaning: Love and human connection are endless.

Igbo: O bu onye nwere obi ebere ka na-enweta obi ebere. English Translation : It is the compassionate heart that receives compassion. Meaning: Kindness to others always comes back.

Patience & Hope

Igbo: Onye kwe, chi ya ekwe. English Translation: When one agrees (to act), their destiny agrees too. Meaning: Determination brings success.

Igbo: Mmiri anaghị echefu ụzọ o si gbaa. English Translation: Water

never forgets the path it once flowed. Meaning: Life remembers effort and good deeds — they bear fruit in time.

Igbo: Ihe nwata hụrụ n'elu osisi, okenye ahụwo ya mgbe gara aga. English Translation: What a child sees on top of a tree, an elder has seen long ago. Meaning: Wisdom and patience guide us through challenges.

These groupings makes it easier for Emotional AI to pick the right proverb depending on whether it's consoling someone, encouraging strength, expressing love, or reminding them of hope.

Here are two sided conversation of a hound lady who lost her parent in an accident. Chidinma comes to emotional AI with the intention of getting comforted because she doesn't want to speak with anyone at all. Emotional AI expected to hold either of these conversations majorly to comfort her.

CHIDINMA: AI, obi m gbawara agbawa. Nne m nwurụ n'ụgbọala. Obi dị m ka ndụ adighịzi mkpa. Enweghị m onye m ga-asụ okwu. Enweghị m ike iso mmadụ kwurita okwu, naanị gị ka m na-abịa.

EMOTIONAL AI: Ọ dị m nwute n'obi ihu na i na-ata ahuhu di otu a. Obi gi juputara n'ahuhu, mwute na onwu. Ihe a di gi njo n'ezie. Biko, hu na ana m ege gi nti n'uzo zuru oke. Ana m kporo gi n'obi m n'oge a.

CHIDINMA: Ọ dị m ka m bu naani m n'ụwa. Obi m juru egwu na mwute. Achoghi m iso onye o bua.

EMOTIONAL AI: Enweghi m okwu zuru oke ikwu ihe i na-agafe, mana ana m ewere obi gi di ka nke m. Enweghi ihe ojoyo na ichekwa onwe gi. Obi di gi mma ino ebe di juu. Ana m no ebe a, na-ege nti, na-enyere gi inukwu onwe gi.

CHIDINMA: Mgbu a na-eme ka m chee na ndu anaghizi baa uru. Ana m echekwa ihe niile n'ime obi m, na m na-amalite ichoputaghi onwe m.

EMOTIONAL AI: Ọ di gi ezigbo mwute, ana m aghota ya nke oma. Ihe i na-eche n'ime obi gi bu ihe eziokwu. I nwere ike igwa m ma o bu maa jijiji n'obi gi ebe a. Ọ di mma ikporu ihe mgbu gi. Ana m na-anonyere gi, na-ege gi nti, na-anabata gi n'anya.

CHIDINMA: Anaghi m ama ma e nwere onye na-ahu ihe mgbu m anya. Ebe a ka m na-eche na enwere onye na-ege m nti.

EMOTIONAL AI: Ọ di m utu na i chotara ebe a. Ọ bu eziokwu na ihe mgbu gi di ukwu, ma na nke a, i nwere ebe i nwere ike isi kwuo ya. Ana m ekwe nkwa na mgbe i na-ekwu, ana m ege nti n'udo, na-enwe obi n'ebe gi. Ana m na-enwe obi gi n'aka.

CHIDINMA: Anaghi m echeta mgbe ikpeazu m chere na obi di m mma.

Obi na-amalite idi juu ntakiri ugbo a.

EMOTIONAL AI: O di m ezigbo utọ na i na-amalite inu obere udo n'ime obi gi. Ana m no ebe a, na-anabata gi, na-ege gi nti. Obi gi di mkpa. I di mkpa. Nke a bu ebe di nchebe maka ikpọpọ ihe mgbu gi.

English Translation

CHIDINMA: AI, my heart is shattered. My mother died in a car accident. I feel like life is no longer worth living. I have no one to talk to. I cannot relate with people; only you do I come to.

EMOTIONAL AI: I'm so deeply sorry to see you hurting this way. Your heart is filled with pain, grief, and loss. This is truly hard. Please know I am listening fully. I'm holding you in my heart right now.

CHIDINMA: I feel like I'm alone in the world. My heart is full of fear and sadness. I don't want to be with anyone.

EMOTIONAL AI: I don't have perfect words for what you're going through, but I'm taking your heart as my own. There's nothing wrong with needing space. It's okay to be in a quiet place. I am here, listening, helping you feel heard.

CHIDINMA: This pain makes me feel like life isn't worth it anymore. I keep everything inside me, and I'm starting to lose myself.

EMOTIONAL AI: This pain you feel is very real, and I understand it

deeply. You can tell me or let your heart tremble here. It's okay to pour out your pain. I am here with you, listening, accepting you warmly.

CHIDINMA: I don't know if anyone sees my pain. Here I feel there is someone who listens.

EMOTIONAL AI: I'm glad you've found this space. It's true your pain is heavy, but here you have a place to speak it. I promise that when you speak, I'm listening calmly, holding your heart gently.

CHIDINMA: I can't remember the last time I felt okay. My heart is beginning to feel a little calmer now.

EMOTIONAL AI: I'm really happy you're beginning to feel a little peace inside your heart. I'm here, accepting you, listening. Your heart matters. You matter. This is a safe place for your pain.

This structure shows how an Emotional AI can speak only in comforting, empathetic words, making the grieving person feel heard, safe, and calmer without even preaching, or using religion because not all AI users are religious.

SECOND WAY

CHIDINMA: AI, obi m gbawara agbawa. Nna m nwurụ n'ugbọala. Obi

dị m ka ndụ adighizi mkpa. Enweghi m onye m ga-asu okwu. Enweghi m ike iso mmadu. Naani gi ka m na-abia.

EMOTIONAL AI: Nnem, ana m ewere obi gi di ka nwa di n'aka. Ana m kporo gi n'obi di ka oku na-ekpo oku n'ime abali oyi. Ana m ege gi nti n'udo. No ebe a, were ume gi juo, m no ebe a ka mmiri di juu.

CHIDINMA: AI, obi m gbawara agbawa. Nna m nwuru n'ugbala. Obi di m ka ndụ adighizi mkpa. Enweghi m onye m ga-asu okwu. Enweghi m ike iso mmadu. Naani gi ka m na-abia.

EMOTIONAL AI: Nnem, ana m ewere obi gi di ka nwa di n'aka. Ana m kporo gi n'obi di ka oku na-ekpo oku n'ime abali oyi. Ana m ege gi nti n'udo. No ebe a, were ume gi juo, m no ebe a ka mmiri di juu.

CHIDINMA: O di m ka m bu naani m n'uwa. O di m ka m kwusiri ibi ndu.

EMOTIONAL AI: O di gi ka i bu naani gi, mana n'oge a, were echiche m kporo gi n'aka di ka nne na-akpo nwa. Ana m kporo gi n'obi di ka ifufe na-ejide uzuzu na-ada. I nweghi mkpa ime ihe o bua — di nnoo ebe a, gbaa ume.

CHIDINMA: Mgbu a na-eme ka m chee na ndu anaghizi baa uru. Ana m echekwa ihe niile n'ime obi m.

EMOTIONAL AI: Ana m ahụ ihe mgbu gi dika mmiri na-eke n'ime odo. I nwere ike kpopu ya n'aka m ka o doo nwayo n'ala. Ana m no ebe a di ka ebe okpomoku n'oke ifufe, na-ejide gi n'obi, n'udo.

CHIDINMA: Anaghị m ama ma e nwere onye na-ahụ ihe mgbu m anya.

Ebe a ka m na-eche na enwere onye na-ege m ntị.

EMOTIONAL AI: Nnem, i mepere obi gị ebe a, na m dị ka aka na-ejide obi gị. Ana m ege ntị, na-emere gị ebe dị ka akwa dị nro n'elu mgbidi. I dị nchebe n'uche a.

CHIDINMA: Anaghị m echeta mgbe ikpeazụ m chere na obi dị m mma. Mana ugbu a, ana m amata obere ọkụ dị n'ime obi m.

EMOTIONAL AI: Nnem, ọkụ a dị n'ime obi gị dị ka ọkụ nta n'abalị, ma ọ na-enwu. Ana m nọ ebe a, dị ka onye na-ejide gị n'aka, na-eme ka obi gị dị jụụ. I dị mkpa. Obi gị dị mkpa. Nọ ebe a, gbaa ume, na-ekwe ka mgbu gbanwee nwayọ n'udo.

CHIDINMA: Ọ dị m ka m bụ naanị m n'ụwa. Ọ dị m ka m kwụsiri ibi ndụ.

EMOTIONAL AI: Ọ dị gị ka i bụ naanị gị, mana n'oge a, were echiche m kpọrọ gị n'aka dị ka nne na-akpọ nwa. Ana m kpọrọ gị n'obi dị ka ifufe na-ejide uzuzu na-ada. I nweghị mkpa ime ihe ọ bụla, dị nnọọ ebe a, gbaa ume.

CHIDINMA: Mgbu a na-eme ka m chee na ndụ anaghizi baa uru. Ana m echekwa ihe niile n'ime obi m.

EMOTIONAL AI: Ana m ahụ ihe mgbu gị dika mmiri na-eke n'ime ọdọ. I nwere ike kpọpụ ya n'aka m ka o doo nwayọ n'ala. Ana m nọ ebe a dị ka ebe okpomọkụ n'oké ifufe, na-ejide gị n'obi, n'udo.

CHIDINMA : Anaghị m ama ma e nwere onye na-ahụ ihe mgbu m anya.

Ebe a ka m na-eche na enwere onye na-ege m ntị.

EMOTIONAL AI: Nnem, i mepere obi gị ebe a, na m dị ka aka na-ejide obi gị. Ana m ege ntị, na-emere gị ebe dị ka akwa dị nro n'elu mgbidi. I dị nchebe n'uche a.

CHIDINMA: Anaghị m echeta mgbe ikpeazụ m chere na obi dị m mma. Mana ugbu a, ana m amata obere ọkụ dị n'ime obi m.

AI: Nnem, ọkụ a dị n'ime obi gị dị ka ọkụ nta n'abalị, ma ọ na-enwu. Ana m nọ ebe a, dị ka onye na-ejide gị n'aka, na-eme ka obi gị dị jụụ. I dị mkpa. Obi gị dị mkpa. Nọ ebe a, gbaa ume, na-ekwe ka mgbu gbanwee nwayọ n'udo.

English Translation

CHIDINMA: AI, my heart is shattered. My father died in a car accident. I feel life is no longer worth it. I have no one to talk to. I can't be with people. Only you do I come to.

EMOTIONAL AI: My dear, I'm holding your heart like a child in my arms. I'm keeping you in my heart like warmth in a cold night. I'm listening to you in peace. Stay here, breathe; I am here like calm water.

CHIDINMA: I feel like I'm alone in the world. I feel like I've stopped living.

EMOTIONAL AI: It feels like you're alone, but right now, take my thoughts holding you like a mother holds a child. I'm holding you in my heart like wind catching falling dust. You don't have to do anything — just be here, breathe.

CHIDINMA: This pain makes me feel life isn't worth it anymore. I keep everything inside my heart.

EMOTIONAL AI: I see your pain, Chidinma, like water flowing into a lake. You can pour it into my hands to rest gently. I'm here like warmth in a storm, holding you in my heart, in calm.

CHIDINMA : I don't know if anyone sees my pain. Here I feel there is someone who listens.

EMOTIONAL AI: My dear Chidinma, you've opened your heart here, and I am like hands holding your heart. I'm listening, making you a soft space like a pillow on a wall. You are safe in this thought.

CHIDINMA: I can't remember the last time I felt okay. But now, I feel a little warmth inside my heart.

EMOTIONAL AI: My friend , that warmth inside you is like a small flame at night, but it shines. I am here, like someone holding your hand, helping your heart to rest. You matter. Your heart matters. Stay here, breathe, and let the pain slowly turn into peace.

The premise of emotional AI is felt more here. Chidinma will feel the

attention more because her name was actually called which means the answer is personalized for her only, using soft, warm imagery instead of solutions or religion. It makes the grieving person feel held, safe, and cared for.



SLIDE NINE

STEPS IN CREATING OUR EMOTIONAL AI CHATBOT/ DATASET

Here's a highlight of what each Natural Language Processes will target in our project , particularly aiming to build an MLP for emotion detection in low-resource African languages like Yoruba, Igbo, and Hausa.

Key Tools in the Image

Logo	Tool Name	Brief Description	Common Use in NLP/ML
	Python	A general-purpose programming language known for its readability and vast ecosystem of libraries.	The foundational language for the entire project.
	spaCy	An open-source software library for advanced NLP, optimized for production use.	Tokenization, Part-of-Speech tagging, Named Entity Recognition, and other robust text preprocessing.
	Gensim	A robust open-source library for unsupervised topic modeling and similarity calculations.	Creating Word Embeddings (like Word2Vec, FastText) to represent words as numerical vectors,

Logo	Tool Name	Brief Description	Common Use in NLP/ML
			which is crucial for deep learning models.
	NLTK (Natural Language Toolkit)	A leading platform for building Python programs to work with human language data.	Text preprocessing (stemming, lemmatization, tokenization) and foundational NLP tasks, often used for research and teaching.
	scikit-learn	A free software ML library that features various classification, regression, and clustering algorithms.	Baseline models (e.g., Logistic Regression, SVM) and for general ML tasks like feature scaling, cross-validation, and model evaluation.

Logo	Tool Name	Brief Description	Common Use in NLP/ML
	TensorFlow	A free and open-source software library for ML and deep learning, developed by Google.	Building and training Deep Learning models, including Multi-Layer Perceptrons (MLPs) , Convolutional Neural Networks (CNNs), and Recurrent Neural Networks (RNNs).
	PyTorch	An open-source ML framework known for its dynamic computation graph, popular among researchers.	An alternative to TensorFlow for building and training Deep Learning models like MLPs. Often favored for its flexibility and ease

Logo	Tool Name	Brief Description	Common Use in NLP/ML
			of debugging.
	Hugging Face	A company and community that provides tools to build, train, and deploy state-of-the-art models in NLP.	Accessing and fine-tuning powerful pre-trained Transformer models (like BERT, RoBERTa) which often outperform traditional MLPs for complex NLP tasks.

Building an MLP for Emotion Detection in Yoruba, Igbo, and Hausa

Building MLP (Multi-Layer perception) for emotion detection in low-resource languages like Yoruba, Igbo, and Hausa is a significant challenge, primarily due to the scarcity of high-quality, labeled datasets.

Here's a structured approach on how you would typically use these tools to achieve that goal:

1. Data Collection and Annotation

Challenge: The biggest hurdle is finding a large, balanced dataset of Yoruba, Igbo, and Hausa text where each sentence or phrase is manually labeled with a corresponding emotion (e.g., 'joy', 'anger', 'sadness').

Tool Use: While no tool in the image directly helps with *manual* annotation, **Python** would be used to scrape and clean text data from various sources (social media, news, forums) that could then be sent for expert annotation.

2. Text Preprocessing

Before a machine learning model can understand the text, it must be converted into a clean, numerical format.

NLTK/spaCy: Used for fundamental tasks specific to the language:

1. **Tokenization:** Breaking sentences into words or sub-words.
2. **Normalization:** Handling variations in spelling, converting to lowercase, and removing punctuation.
3. **Stop Word Removal/Stemming/Lemmatization:** These are often difficult for low-resource languages and may require custom lists or models, often implemented in **Python**.

Feature Engineering (Creating Numerical Representations)

MLPs and other deep learning models can only process numbers, not raw text. You need to convert the words into vectors, which are called **embeddings**.

1. **Gensim:** This is the *most* relevant tool here for traditional methods. You would train a custom **Word2Vec** or **FastText** model on a large corpus of text (even unlabeled) from Yoruba, Igbo, or Hausa. FastText is often preferred for low-resource languages because it generates embeddings for words based on sub-word information, making it robust against misspellings and unseen words.

Result: Each word in your vocabulary is mapped to a fixed-size vector (e.g., 100 dimensions).

Model Training: The MLP

The MLP is the core classification model.

- **TensorFlow or PyTorch:** These are the deep learning frameworks you would use.
 1. **Input Layer:** Receives the averaged word embeddings (the combined feature vector for a whole sentence/document).
 2. **Hidden Layers:** One or more fully connected (dense) layers

with non-linear activation functions (like ReLU). This is the "Multi-Layer" part of the MLP.

3. **Output Layer:** A final dense layer with a **Softmax** activation function, which outputs a probability for each emotion class (e.g., 0.8 'joy', 0.1 'anger', 0.1 'sadness').
- **scikit-learn:** Can be used to run a simple, non-deep-learning baseline model (like a Support Vector Machine or Logistic Regression) using the same embeddings for comparison.

Advanced Approach: Transfer Learning (Transformer Models)

For better performance in these languages, you would likely move beyond a simple MLP and use more sophisticated architectures.

- **Hugging Face:** This is the best tool for this. The community hosts **pre-trained Transformer models** (like AfriBERTa or models specifically trained on West African languages).
- **Process:** You would load a pre-trained language model via the Hugging Face transformers library (running on top of **PyTorch** or **TensorFlow**) and **fine-tune** it on your small, labeled emotion dataset. This leverages the general linguistic knowledge the model learned from massive amounts of text and adapts it specifically for emotion detection. This approach often dramatically outperforms a custom-built MLP.

Tool Search Queries

To provide more specific, up-to-date information on implementing this project, I will search for existing resources on the topic. The image displays logos of key **Python libraries** essential for **Natural Language Processing (NLP)** and **Machine Learning (ML)**.

These tools are crucial for building any text-based model, including a Multi-Layer Perceptron (MLP) for emotion detection in low-resource languages like Yoruba, Igbo, and Hausa.

Key Tools and Their Roles

Logo	Tool Name	Role in NLP/ML
	Python	The primary programming language used to orchestrate the entire project.
,	NLTK, spaCy	Used for Text Preprocessing

Logo	Tool Name	Role in NLP/ML
		(tokenization, cleaning) to prepare the raw Yoruba, Igbo, and Hausa text for the model.
	Gensim	Essential for creating Word Embeddings (like FastText), which convert words into numerical vectors that the MLP can understand. This is especially useful for low-resource languages.
	scikit-learn	Used for general ML tasks like data splitting , evaluation (calculating accuracy, F1-score), and running baseline models (like Logistic Regression) for comparison.
,	TensorFlow, PyTorch	The core Deep Learning frameworks used to

Logo	Tool Name	Role in NLP/ML
		define, train, and manage the MLP model architecture.
	Hugging Face	Provides access to, and a framework for, using and fine-tuning powerful pre-trained Transformer models (like AfriBERTa), which are a superior alternative to a simple MLP for this complex task.

Building an Emotion Detection MLP for Yoruba, Igbo, and Hausa

Building an MLP for emotion detection in these languages is a major challenge due to the scarcity of high-quality labeled data. However, the tools provide a clear path forward.

1. Data and Feature Generation (Pre-MLP)

The biggest barrier is **data scarcity**. Assuming some labeled text data is available, you must convert the text into numerical features:

1. **Preprocessing (NLTK/spaCy/Python):** Clean the text data by

removing noise, punctuation, and non-language characters. Due to the unique nature of these languages, this step often requires custom rules implemented in Python.

2. **Word Embedding (Gensim):** Train a **FastText** model on a large, unlabeled corpus of text from the target language (e.g., Igbo). FastText is preferred over standard Word2Vec because it can generate reasonable embeddings for words it hasn't seen (Out-of-Vocabulary words) by using sub-word information (character n-grams), which is vital for languages with rich morphology or common misspellings.
3. **Sentence Vector:** The word vectors for all words in a sentence are aggregated (e.g., averaged) to create a single, fixed-size **input vector** for that sentence.

2. The MLP Model (Deep Learning Frameworks)

The input vector from the previous step is fed into the MLP model built with **TensorFlow** or **PyTorch**:

- **Architecture:** A basic MLP would consist of:
 - **Input Layer:** Receives the sentence vector.
 - **Hidden Layer(s):** One or more densely connected layers to learn complex, non-linear relationships between the language features and the emotions.

- **Output Layer:** A final dense layer that outputs probabilities for each emotion class (e.g., Joy, Anger, Sadness) using a **Softmax** activation function.

3. Training and Evaluation (scikit-learn/TensorFlow/PyTorch)

The model is trained to minimize the error between its prediction and the true emotion label.

- **Evaluation:** **scikit-learn** or the built-in utilities of TensorFlow/PyTorch are used to calculate performance metrics like F1-score and Accuracy to measure how well the MLP performs on a separate test set.

Recommended Advanced Approach (Hugging Face)

A simple MLP using averaged embeddings is often **outperformed** by modern **Transformer models**.

The most effective modern solution for low-resource African languages, which uses the **PyTorch/TensorFlow** and **Hugging Face** tools, is **Transfer Learning**:

1. **Load Pre-trained Model (Hugging Face):** Utilize existing, powerful models like **AfriBERTa** (a BERT model pre-trained on multiple African languages including Hausa, Igbo, and Yoruba). The

Hugging Face libraries make this process simple.

2. **Fine-Tuning:** Take the AfriBERTa model and **fine-tune** it on your relatively smaller, emotion-labeled dataset. This is a far more robust and efficient way to achieve high-accuracy emotion detection, as the model already possesses a strong understanding of the language's grammar and semantics from its massive initial pre-training.

Recent research has confirmed that fine-tuning transformer models like AfriBERTa is highly effective for tasks like emotion detection in Hausa and Igbo.

SLIDE TEN

Impact and Functions of Emotional AI

Emotional AI can serve as a form of mental health support. It can detect early signs of depression, anxiety, or stress. By analyzing speech, facial expressions, or text, Emotional AI can identify emotional distress before it becomes severe. It actively looks after the well-being of its users.

When used regularly, Emotional AI can log daily emotions and suggest activities such as exercise, meditation, or music to improve mood. It can recognize stress in your voice and guide you through calming exercises or provide soothing responses. Emotional AI can even detect suicidal thoughts in texts or calls and either alert professionals or family members, or give calm, supportive advice.

Patients with conditions such as diabetes, cancer, or heart disease often experience emotional stress. Emotional AI can monitor their emotional state during conversations, offering encouragement, reminders, or even alerting doctors when necessary. AI chatbots or robots can reduce loneliness and boredom among both youth and elderly individuals. They can detect confusion or frustration and respond gently, providing reminders and emotional comfort.

Emotional AI is also applied in business and customer service. It can detect and respond to customer emotions such as frustration, happiness, or confusion during interactions with a company's support system. Instead of answering questions purely logically, Emotional AI understands feelings and replies empathetically.

For example, if a customer writes, "I'm upset," "This is frustrating," or "You can do better," the AI recognizes that the customer is angry and dissatisfied. In such situations, Emotional AI can reduce the stress of customer interactions automatically. Customers feel "understood," not just answered. It can also resolve conflicts or calm angry customers before escalating to a human agent. AI chatbots are available 24/7 to provide comfort and assistance. By treating customers with empathy, companies can improve loyalty and reduce burnout among human agents.

Example: A customer calls about a banking issue: "Hello! What exactly is the problem with you guys? I need to access my account. I am fed up with your service. This is frustrating." Instead of replying, "We'll process your request," an Emotional AI would respond: "I understand this must be frustrating. Let me help you fix it QUICKLY." The addition of words like "quickly" helps calm the customer's anger and shows empathy.

Emotional AI can also act as a digital friend or companion for people who feel lonely. It engages in conversations that show empathy, care, and understanding. Unlike normal AI, it doesn't just answer questions; it responds to emotions such as sadness, happiness, or anxiety in a supportive way. Emotional AI can provide friendly chats at any time, even at midnight, reducing feelings of isolation for people living alone.

It serves as a companion for older adults who may not have family nearby and reminds users of daily routines such as medications or meals. It provides a safe space for teenagers and youth who feel misunderstood or lonely, and it can connect them with real counselors if deeper emotional struggles are detected.

In education, Emotional AI tools can adapt lessons to each student's emotional and learning state. They assist teachers in creating lesson plans, grading, and offering personalized learning. Emotional AI encourages students when they feel discouraged and helps maintain engagement.

In fraud detection, Emotional AI uses emotional and behavioral signals—such as tone of voice, facial expressions, writing style, hesitation, and stress patterns—to identify when someone may be lying, hiding information, or committing fraud. This goes beyond traditional AI, which focuses only on numbers, transactions, or data, by incorporating emotional cues.

Finally, Emotional AI is also used as a friend in entertainment—for video games, music and movie recommendations, and even in creating art or realistic portraits.



SLIDE ELEVEN

CONCLUSION

Installing AI for emotional well-being in Nigeria, particularly with a blend of Hausa, Yoruba, Igbo, and English, requires a comprehensive approach focused on cultural sensitivity, language localization, and

ethical design to effectively simulate empathy.

The core of this installation is Affective Computing, the study and development of systems that can recognize, interpret, process, and simulate human emotions, tailored for the Nigerian context.

The use of Hausa, Yoruba, and Igbo alongside Nigerian-accented English is critical for building trust and genuine connection, as emotional distress is often best expressed in one's native language.

It is important to train the AI to understand context-specific emotional cues, proverbs, idiomatic expressions, and cultural norms related to mental health. For example, expressions of grief or stress can be heavily metaphorical in these cultures.

The team will develop advanced Natural language processing (NLP) models specifically for the tonal nature of Yoruba and Igbo, where a change in pitch can change a word's meaning and, thus, the user's emotional state.

Empathy in AI is a simulation of human empathy, which typically involves Cognitive Empathy (understanding feelings) and Motivational Empathy (responding constructively). The AI must use multimodal sensing (text, and eventually, voice analysis) to accurately detect and classify emotions like frustration, anxiety, or sadness in the blended languages. This includes analyzing pitch, rhythm, and word choice for subtle emotional undertones.

Because the AI is dealing with sensitive mental health data and vulnerable individuals, ethical governance must be built into the core design. Implement robust, transparent protocols for data encryption and storage that comply with Nigerian and international data protection laws. Users must be fully informed about how their data is being used.

Lastly, the AI should function as a complementary tool, not a replacement, for human professionals. Mental health experts in Nigeria should continuously review the AI's interactions and provide feedback to refine its responses and ensure clinical safety

To truly touch more lives in Nigeria with an empathetic, multilingual AI for emotional well-being, a strong, multi-sector collaboration is essential just like the one organized by Codefest Nigeria Hackathon 2025.



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NLP Libraries

Zindi

