Sólo Escúchame:
Spanish Emotional Accompaniment Chatbot

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Abstract

In 2019, suicide was the fourth leading cause of death among individuals aged 15 to 29, according to the World Health Organization (WHO). As mental health issues continue to rise, the need for psychological support is urgent. In our paper:

1. We present **Sólo Escúchame (SE)**, the first open-source Spanish emotional assistance chatbot, based on **LLaMA-2-7b-Chat**.
2. We introduce the **HEAR** dataset, compiled from English sources translated into Spanish, alongside data generated using **ChatGPT-3.5-Turbo**.
3. We propose an evaluation metric, based in Socratic and Active Listening methods.

Our model outperforms state-of-the-art models in Spanish psychological assistance, and both models and datasets are publicly available for reproducibility.
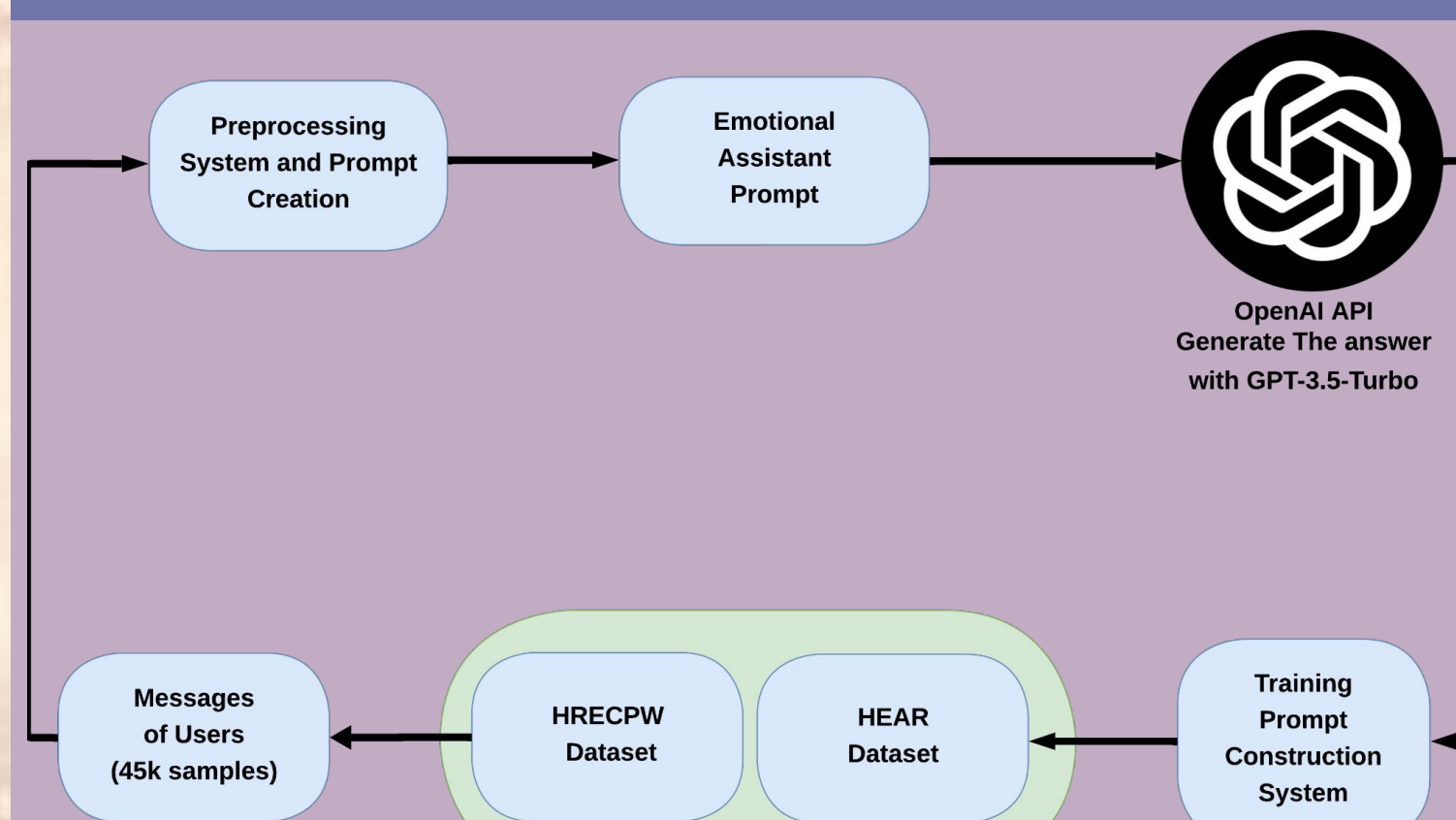
Creation of the **HEAR** Dataset

The **HRECPW** dataset was created by translating and re-annotating English sources using Plutchik's Wheel, **with 11 emotion classes**: affection, happiness, admiration, anger, sadness, optimism, hate, surprise, fear, calm, disgust.

Figure: Plutchik's Wheel of Emotions
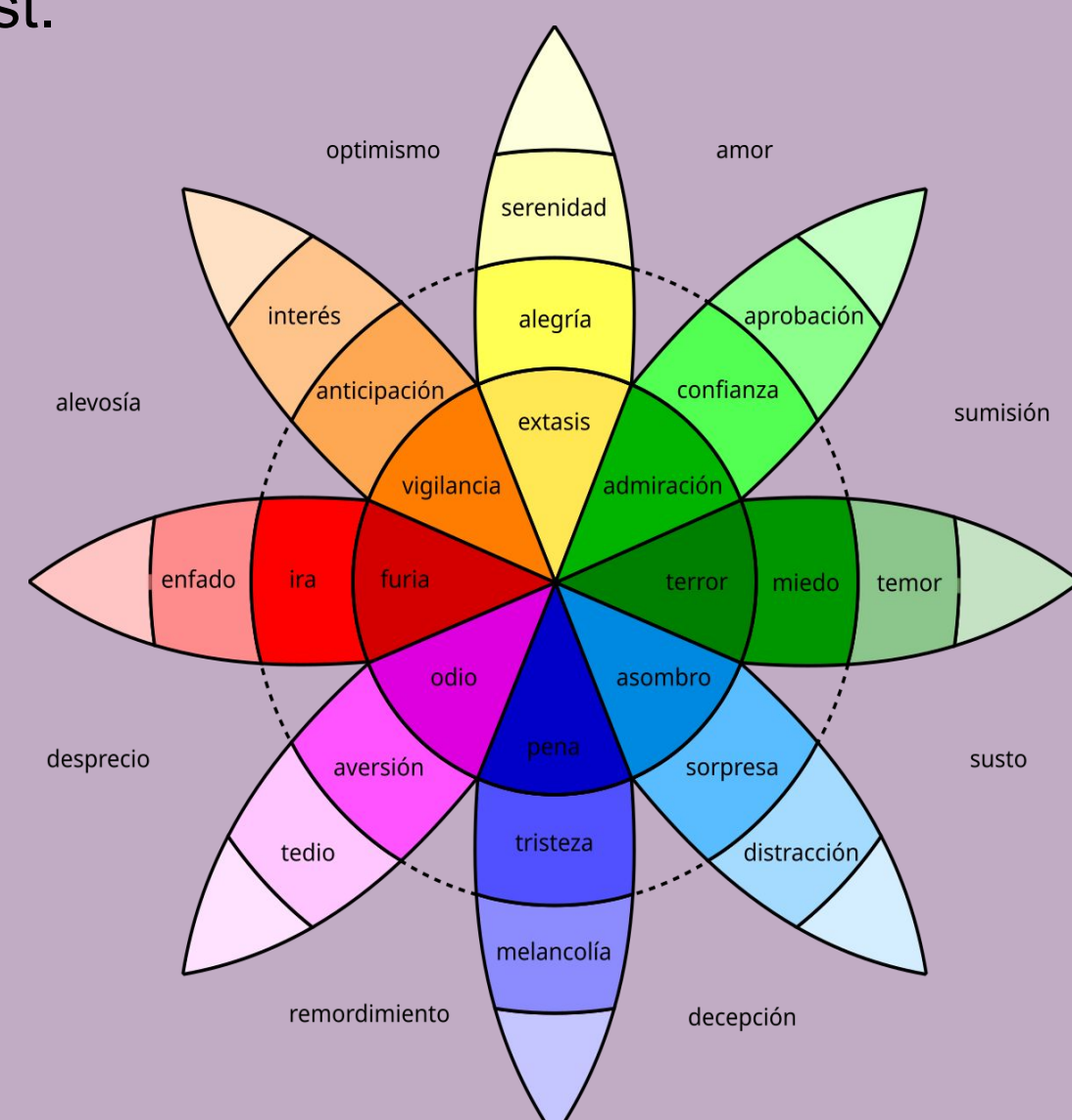
The **HEAR** dataset was generated by selecting 3,771 samples per class from HRECPW, then generating responses using **GPT-3.5-Turbo**.

SÓLO ESCÚCHAME	RESULTING DATASETS SHAPE	
SUBSET	**HEAR**	**HRECPW**
TRAINING	41,481	121,000
VALIDATION	2,200	2,200
TEST	1,320	1,320

Synthetic Data Prompts

Figure: The procedure to generate data using GPT-3.5

Training Prompt

Below is an instruction that describes a task, paired with an input that provides further context.

instruction:
You are an emotional assistant, respond empathetically **in Spanish** to each of the messages. **If the user seems sad or upset, you should** offer words of encouragement. If the user seems happy or excited, the assistant should share that joy and respond enthusiastically. In all cases, **the assistant should maintain a respectful tone**, if possible, encouraging you to talk more about it. **Don't say hello, unless necessary. Use the username and pronoun** to respond in a personalized way.

input:
{"Username":"Sohel", "pronoun":"el", "message":"El miedo me paraliza cuando tengo que tomar decisiones importantes en mi vida."}

response:
Entiendo, Sohel. Que el miedo te paralice al tomar decisiones importantes en tu vida. Recuerda que tomar decisiones es parte natural del crecimiento y que siempre hay opciones y apoyo disponible si te sientes abrumado. ¿Hay alguna decisión específica que te preocupe en este momento? </s>

Fine-Tuning Process

New Model
(Sólo Escúchame)

Figure: LoRA Adapter For Training

We fine-tuned **LLaMA-2-7b-Chat** on the **HEAR** dataset using **LoRA** (Low Rank Adaptation), which reduces trainable parameters by freezing the model's weights and only training small decomposition matrices. We used Hugging Face's Transformers library, with key parameters: batch size = 15, learning rate = 5e−5, R = 64, alpha = 128, and dropout = 0.1.
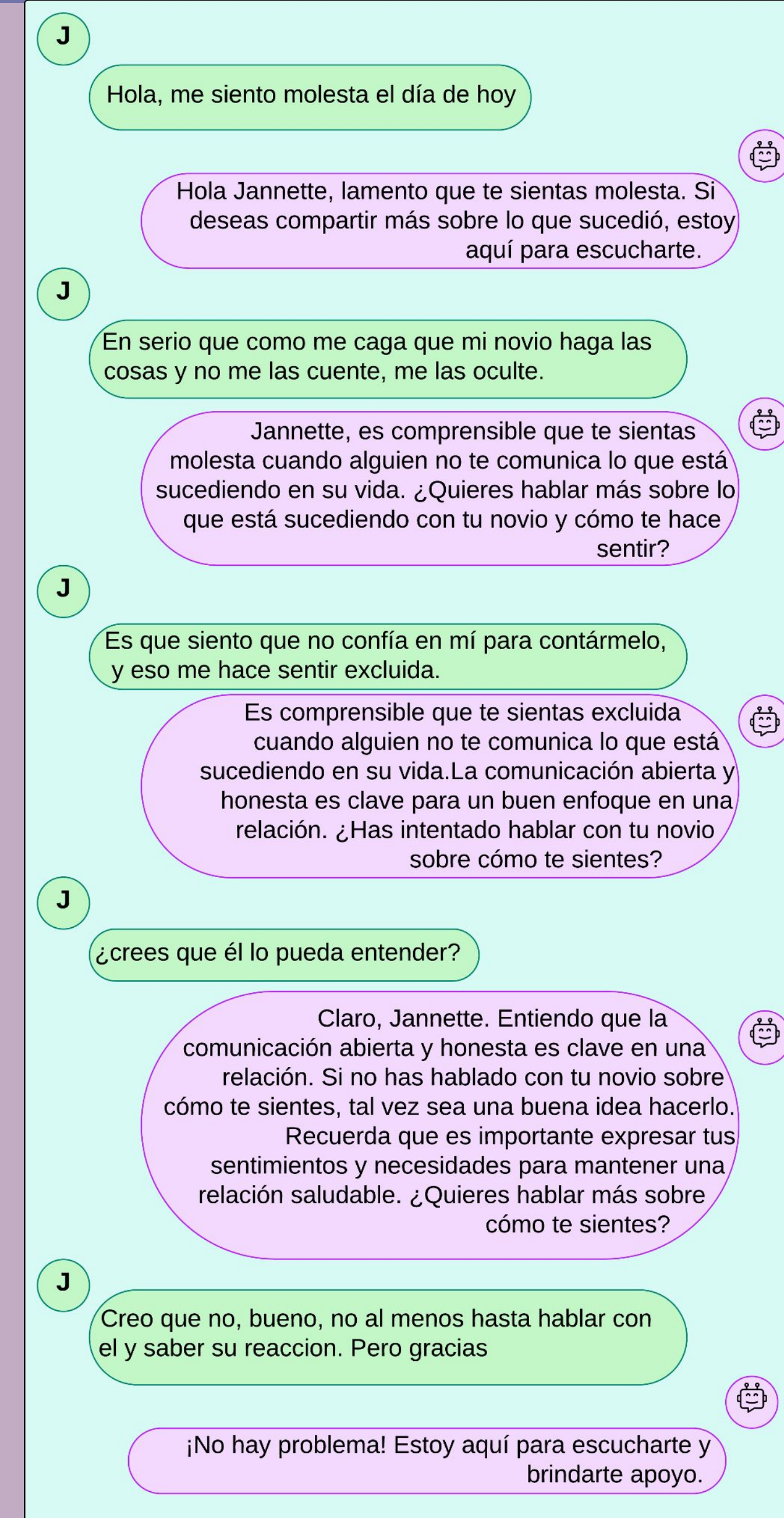
Evaluation Process

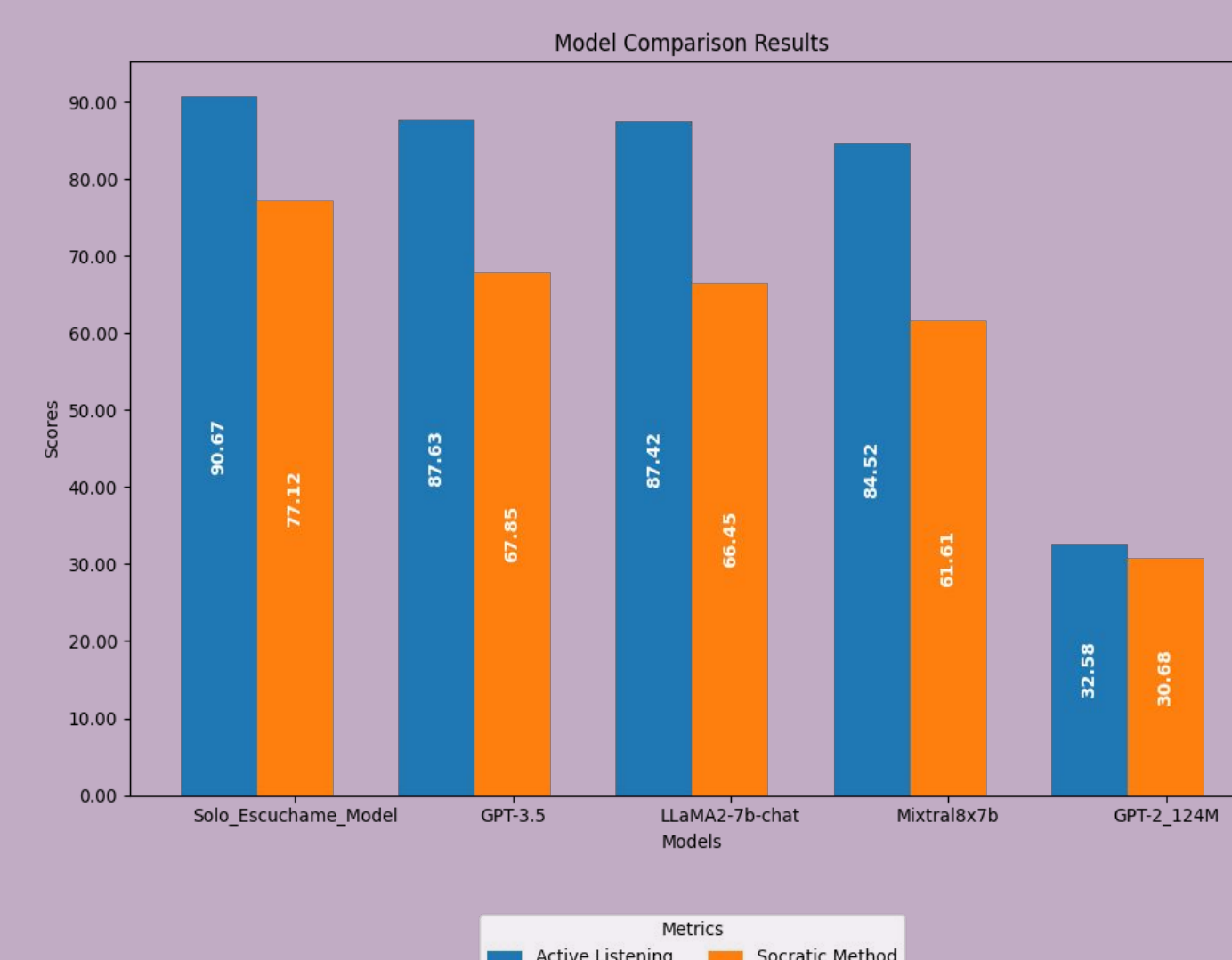| SÓLO ESCÚCHAME	EVALUATION METRICS
ACTIVE LISTENING	**SOCRATIC METHOD**
Contextual Attention	Inductive Questioning
Clarifying Questions	Non-Imposition of Ideas
Delving into Conversation	Knowledge Construction
Absence of Judgment	Cognitive Dissonance
Empathy	Encouraging Critical Reflection

Figure: Applied Evaluation Metrics

The evaluation process applied **Active Listening** and the **Socratic Method** metrics across all models, including our own and state-of-the-art baseline models. This ensured a consistent and fair comparison by measuring each model's ability to engage in meaningful, non-judgmental dialogue and foster reflective thinking without imposing ideas.

SE Model Conversation Example

J: Hola, me siento molesta el día de hoy

Hola Jannette, lamento que te sientas molesta. Si deseas compartir más sobre lo que sucedió, estoy aquí para escucharte.

J: En serio que como me caga que mi novio haga las cosas y no me las cuente, me las oculte.

Jannette, es comprensible que te sientas molesta cuando alguien no te comunica lo que está sucediendo en su vida. ¿Quieres hablar más sobre lo que está sucediendo con tu novio y cómo te hace sentir?

J: Es que siento que no confía en mí para contármelo, y eso me hace sentir excluida.

Es comprensible que te sientas excluida cuando alguien no te comunica lo que está sucediendo en su vida. La comunicación abierta y honesta es clave para un buen enfoque en una relación. ¿Has intentado hablar con tu novio sobre cómo te sientes?

J: ¿crees que él lo pueda entender?

Claro, Jannette. Entiendo que la comunicación abierta y honesta es clave en una relación. Si no has hablado con tu novio sobre cómo te sientes, tal vez sea una buena idea hacerlo. Recuerda que es importante expresar tus sentimientos y necesidades para mantener una relación saludable. ¿Quieres hablar más sobre cómo te sientes?

J: Creo que no, bueno, no al menos hasta hablar con el y saber su reaccion. Pero gracias

¡No hay problema! Estoy aquí para escucharte y brindarte apoyo.

Results

Figure: General Performance Models Results

The comparison of models, based on **Active Listening** and the **Socratic Method**, shows that **Sólo Escúchame** outperforms all other models, achieving the highest scores across both metrics. State-of-the-art models, such as **GPT-3.5** and **Mixtral8x7b**, follow closely but still fall short, particularly in fostering deeper conversations and cognitive reflection.

These results demonstrate the effectiveness of **Sólo Escúchame** in promoting meaningful and empathetic dialogue.

Github Repository and more Info