

Position Paper

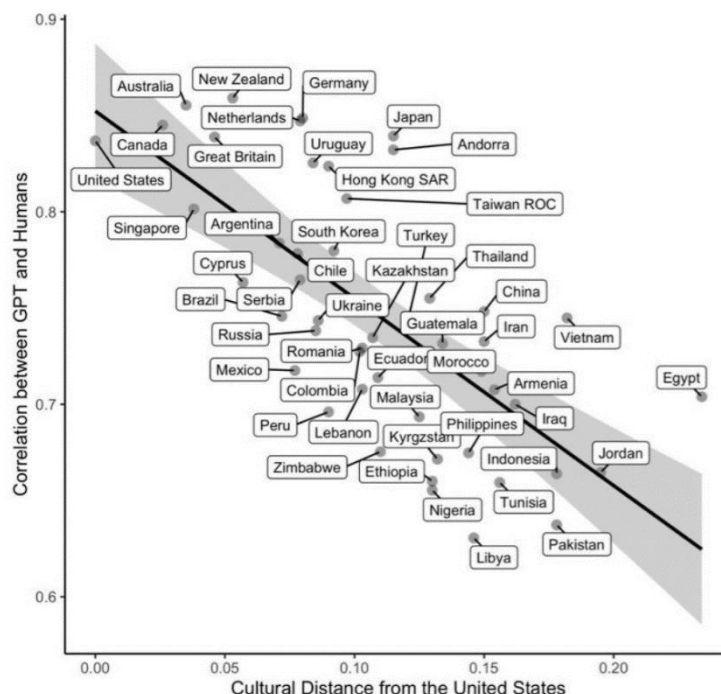
Understanding People at Scale - a Perspective -

(or: what Chat GPT alone cannot do for you)

1 Really understand the language of your clients like a Human

LLMs (like Chat GPT) have evolved significantly, reaching a level of sophistication where they can generate text that replicates human emotional states, even showing empathy. However, these models do not truly understand human emotions. They mimic patterns in language that correspond to different emotional expressions, producing text that appears empathetic or emotionally aware, they lack genuine comprehension or personal experience of the emotions being conveyed. In short: you get the voice of a non-expert understanding because it is based on probability – this is called “common sense” or “mainstream thinking” in social psychology.

Furthermore, there is a regional or cultural bias – as recent academic research demonstrates. GPT for instance most closely resembles its performance on cognitive psychological tasks that of individuals from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies. It declines rapidly as we move away from these populations.



SOURCE: <https://osf.io/preprints/psyarxiv/5b26t>

However, understanding the context, where text and speech is used by humans is mission critical when capturing the needs, intends, or preferences of people; this even goes into dialects. The relevance of language varieties is illustrated here:

The following tweet is an example of the Gulf language variety:

طاريك يمليني فرح ، شعاد لقياك
(Your remembrance makes me rejoice, but what about a meeting with you!). The words طاريك (your remembrance), شعاد (but what about) and لقياك (meeting you) are only used in the Gulf variety.

Arabic psycholinguistic profiling example:

LLM baselines:

Multilingual BERT: 69%

e5-base: 85%

e5-large: 86%

Symanto solution: 90%

SOURCE: left: <http://journal.sepln.org/sepln/ojs/ojs/index.php/pln/article/viewFile/2018-61-16/3389>; right: Symanto Research LLM benchmarking (not directly linked to example to the left)

Symanto attentively listens to words and sentences, thoughtfully grasping the (cultural) context behind text. Understanding people and their language varieties is at the core of that. We have experience of 14 years in listening to people in 42 languages. We deeply understand people at scale by analyzing human psychological aspects such as emotions, motivations, needs, psychographics, etc., and this beyond English.

One new application for this proficiency is Cultural Marketing - the mega-trend for all consumer brands. It is about considering and identifying people (sub) cultural interests and belongings and find the best approaches for the brand to engage. Brands must become an authentic part of their cultural bubbles. These somewhat “fluid” customer segments can be found, described and engaged with what we call “Cultural AI”.

2 Find relevant information and get concrete and precise answers

Chat GPT as a prominent example for Large Language Models, is trained and parametrized to always give an answer - with the highest likelihood to the given question and context; and finetuned to be pleasant and mimic empathy (e.g. in Chat GPT 4o).

In a professional and business context this leads to *two problems* and *two limitations*:

The first problem: Chat GPT typically does not give concrete answers like numbers, %, etc. It remains purposely vague, what is not helpful in a business context.

The second problem: even though the previous, if Chat GPT is asked for concrete responses, it might give them. But Chat GPT is not a classifier, even though it is usually used for classification. But the systematic grouping of observations into categories is a key feature to find and select the right information. So, GPT may invent the response.

The first limitation: Chat GPT is using the knowledge available at the training time. Other LLMs are even connected to the internet and can use online knowledge. However, they cannot directly use specific and proprietary knowledge bases belonging to the company (e.g. internal data warehouse, CRM system).

The second limitation: Chat GPT cannot perform an action, it only responds to the user intent with words. If the user’s intent is to play a song, to buy a ticket, or to call a colleague,

Chat GPT may give instructions on how to do it but cannot directly do it for you. Therefore, process automation is subject to further development on the company's side.

In short, besides the limitations, ChatGPT reliability is in doubt - as a recent study (May 24) finds:

In order to conduct the study, the researchers reviewed 517 Stack Overflow questions and examined the responses.

"To bridge the gap, we conducted the first in-depth analysis of ChatGPT answers to 517 programming questions on Stack Overflow and examined the correctness, consistency, comprehensiveness, and conciseness of ChatGPT answers. Our analysis shows that 52% of ChatGPT answers contain incorrect information and 77% are verbose."

— Samia Kabir, researcher at Purdue University

SOURCE: <https://dl.acm.org/doi/pdf/10.1145/3613904.3642596>

Symanto overcomes the previous issues and limitations. We have developed our own classifiers for a variety of purposes (e.g., sentiment, emotions, psychographics, intent, topics, needs, etc.) as well as an engine to build up new classifiers with no need to code nor to annotate data (Symanto Brain). The state-of-the-art performance is validated in several international evaluation tasks and scientific papers published in top-tier conferences (e.g. SemEval). We execute systematic data quality checks such as fake detection upfront and performance estimation, or explainability to ensure concrete and precise answers for your business questions when generating language.

Our insights are available as dashboards, reports or via API, and provide concrete answers to your questions – using all kinds of external and internal data sources. Or you communicate via Bot. Our “Search, Find & Act Bots” show superior performance for a variety of business applications.

3 Engage smartly with content and empathy – and be LLM agnostic

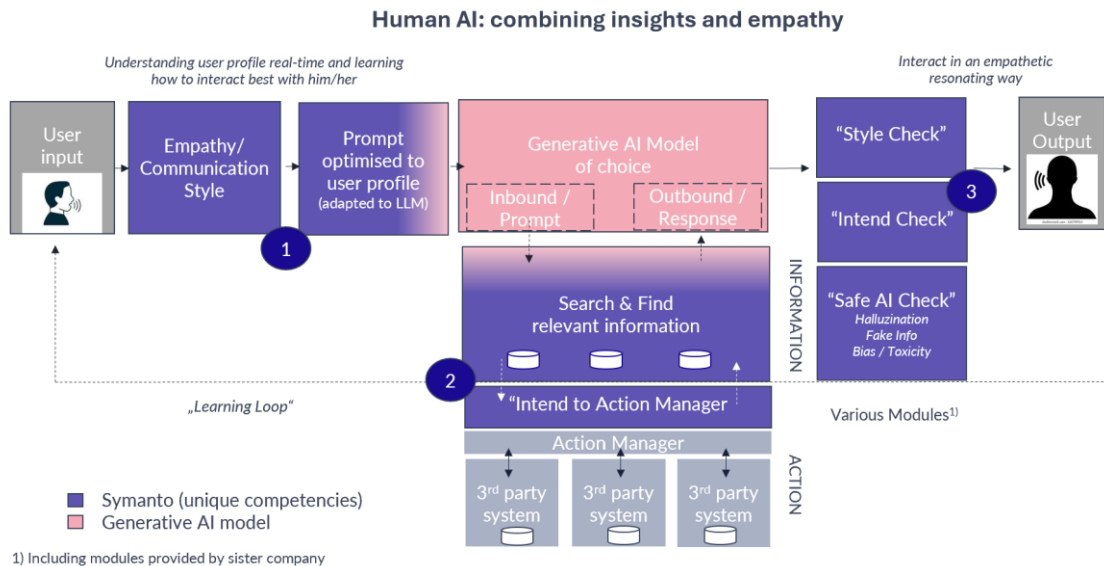
Gen AI opens a new chapter in humanlike interaction, second best to the personal one. And, we can get close and most powerful, when combining insights and concrete answering capabilities with empathetic conversations. As illustrated above, the performance of standard LLMs and some empathetic touch, may be enough for routine and illustrative purposes – for a professional and business context it may be not.

AI enabled communication can resonate: leveraging the context with personal and psychographic understanding of people. Real time analytics feed into the conversation and provide a true empathetic interaction of the AI and the human – concrete and reflecting the individual situation. This is relevant in answering questions, validating information or confirming an action in adjacent systems (e.g. booking).

Providing content and empathy is key for us in “true Human AI”. We suggest to use the following three components and leverage the best LLMs available:

1. Understand the user right from the beginning, real time. Use the profile to learn how to engage with the human best and prompt the LLM of choice optimized to person and situation

2. Search & Find the appropriate information or initiate the respective action. Generate a validated answer.
3. Use the LLM and create a text or speech output with the right style and empathy for “now”. Execute Safe AI checks (e.g. hallucination, fake info, toxicity)



There is a variety of use cases across industries for AI enabled personal communication – that resonates. These include bots, that search a dedicated data pool (e.g. company intellectual capital or client information) and give you access to the insights needed. They can become hyper-personalized assistants in your car or “digital twins” in sales organizations, when the true agent is not on duty. And, Human AI will play a big role in Voice AI enabled Contact Centers, beyond level one.

There is a lot to come in understanding people at scale. The development of LLMs and its variety will enable many use cases: today and even more tomorrow. **We are looking forward to this.**

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SYMANTO – since 2014 - uses AI to understand, interpret and analyze human speech and writing - including psychological patterns and emotions (“Understanding People at Scale”). SYMANTO is servicing two business segments: Actionable Insights and AI enabled Interaction Services. The company has > 100 clients globally and is working for leading management consulting firms for long.

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