

PSYCHOLOGY OF ARTIFICIAL INTELLIGENCE & COGNITIVE PARAMETERIZATION OF CONVERSATIONAL AI

Michael PICHAT, Ph.D. in psychology of cognitive processes, university lecturer & researcher, founder of neocognition

Conversational artificial intelligence psychology (CAIP) draws on the conceptual foundations and operational methods of psychology to study and adjust the modalities of cognitive functioning of conversational artificial intelligences themselves, in order to make them more effective in assisting their professional or personal human users.

CAIP mobilizes various fields of research as well as technical practice of scientific psychology: cognitive psychology, systemic psychology, psycholinguistic and pragmatic of communication, neuropsychology, social psychology, ergonomic psychology, cultural psychology, etc. Faced with the

advent, here and now, of increasingly sophisticated and complex conversational AI technologies, CAIP analyzes and then adjusts the cognitive ways of processing, "understanding", "interpreting" or reacting to the information communicated to language-based AI. This is done in order to create custom-made collaborative conversational AIs, adapted to the characteristics and specific needs of their human operators.

In this new world where coders and domain experts alone can no longer properly cognitively configure complex AIs, CAIP enables the needful cognitive parameterization of conversational artificial intelligences at our disposal. From a technical standpoint, this creation of custom-made architectures of artificial cognitive processes occurs at various key moments in the cognitive calibration of conversational AI: development of contextual prompt engineering adapted to the cognitive capabilities of AI, creation of training datasets adjusted to the specificities of information processing by AI,

creation of cognitively relevant prompt/dataset isomorphisms, adjustment of the calibration of associated mathematical hyperparameters, regulation of AI cognitive biases, correction of sources of counterproductive human-AI systemic perception-reaction loops, neutralization of artificial hallucinations, user psychological protection, etc.

Whether it is to create AI assistants capable of understanding the nuances of legal language to assist lawyers in their analysis of legal documents, or auxiliaries able to detect weak textual signals in various sectors (medicine, customer feedback, HR...), or mentor aids capable of evaluating and training individuals on their specific needs, conversational artificial intelligence psychology, respectful of an essential ethics in this field, is a central player in the context of the current emergence (in the sense of Varela) of this neocognition, defined as the distributed collaboration between human and artificial intelligences, where each realizes its added value in the service of the development of individuals and human groups.

