Three Concrete Examples of How Mindset Might Influence Observations in Cognitive Systems

One’s mindset is a powerful and influential tool that can hinder the research process. Mindset can be defined as an established set of attitudes, or settled ways of thinking or feeling about something, that is reflected through one’s behaviour. The three examples I will address—the Halo effect, confirmation bias, and intuition pumps—show how mindset may subconsciously influence observations that are made in research areas of Cognitive Systems.

Having a biased mindset when tackling research concerning human subjects may lead to the Halo effect, which influences a researcher’s observations of their subjects. The Halo Effect results from attributing a positive mindset about a subject due to limited information gathered from the subject [1]. In the context of research, a subject may respond to a researcher’s question in an ideal way, causing the researcher to make positive assumptions about the responder, thus influencing his/her observations made. This may cause an experimenter to present favourable data at the forefront of their research, unintentionally reflecting their subconscious mindset.

Confirmation bias, or the preferential focus on variables and outcomes that confirm one’s beliefs, is another mindset-led error found in current research [2]. By having established a desired result, a researcher may form beliefs and observations that unintentionally follow suit of said result. For example, this would translate into an AI researcher confirming the safety of autonomous self-driving cars by highlighting every safe action, while ignoring a few unsafe actions. With confirmation bias, the neglect of mistakes has costly implications that need to be considered, despite positive evidence that support one’s position.

In the analysis of thought experiments (TE) that are prevalent in Cognitive Systems research, a phenomenon known as an “intuition pump” is created around the framing of a specific mindset, thus influencing one’s observations towards an argument. An intuition pump is created when the TE proposer selectively focuses on certain aspects of an argument, while downplaying potentially important arguments, leading observers to conclude that the argument is logical, and leaving potential rebuttals to be less obvious [3]. TE proposers create a mindset, or an established set of attitudes, towards their arguments that influence one’s observations during its analysis. In John Searle’s Chinese Room TE, for example, Searle evokes a strong intuition pump, suggesting that an agent does not truly understand its actions. Though others are not as easily influenced, a subtle change of mindset creates a way of thinking that influences our perception about the problem.

