

USER: What is the term "attention" introduced in transformers ? why it helps ?

ASSISTANT: The term "attention" introduced in transformers refers to a mechanism that allows the model to weigh and focus on specific parts of the input sequence when generating an output. This mechanism helps by allowing the model to selectively focus on relevant information while discarding irrelevant information, thereby improving the representation of the input contexts and enhancing the performance of the network.

USER: so which method proves best for solar prediction model ? and why ?

ASSISTANT: The text doesn't explicitly state which method proves best for a solar prediction model, as it mentions several models (such as the Proposed-TFT) without comparing their performance in a direct manner. However, it suggests that the proposed model may perform exceptionally well on the USA SI dataset due to its consistent patterns and fewer outliers, compared to the Pakistan SI dataset which might present more variability. Therefore, for the given context, we can infer that the Proposed-TFT (or similar models) could perform better on datasets with consistent patterns or fewer outliers, but further research or comparative analysis would be needed to definitively confirm this.

USER: can you describe me in brief , how human evolved ?

ASSISTANT: Humans evolved over millions of years through a process called natural selection. This process favored individuals with traits that improved their chances of survival in their environment. Some key adaptations that enabled human evolution include enhanced eyesight, brain development, tool-making skills, and complex social structures.

2.3 million years ago, early humans (*Homo habilis*) began making tools, which significantly altered their ways of life and laid the foundation for future advancements in human societies. This ability to create tools and work cooperatively became critical for survival, enabling early humans to hunt and

gather more effectively.

The evolution of the neocortex and changes in the vocal system allowed for the development of complex speech in *Homo erectus*, facilitating improved communication and social structures, crucial for survival. Around 200,000 years ago, *Homo sapiens* emerged with these advanced cognitive abilities, tools, and language. As they spread across the globe, they adapted to diverse environments, becoming the dominant species on the planet.

So, in summary, humans evolved through natural selection, which favored traits that improved their chances of survival. Early humans developed tool-making skills, cooperation, and complex communication abilities that enabled them to adapt to changing environments and become the dominant species on Earth.