

Neosome and the Prophet or How Does Machine Learning See Me?

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F*** authenticity. I just want to be me.
– Anton “Fatoni” Schneider, Autithenzität

“You are Neosome, the one concerned about being oneself,” the prophet said. Neosome was standing in a narrow but long dark corridor. The dimensions of the room symbolized the connection between past, present and future. The dimensions which the prophet sees. In front of Neosome, a chest-high black rectangular pillar was placed on which a white cube glowed dimly. “You know why I called you?”, the voice from the void continued. “I don’t dare to guess, nabi,” Neosome replied with low voice. “You are smart enough to have realized that my prophecies about you fail to realize.” Neosome nodded slightly, still glancing to the bottom of the black column.

The culture in which Neosome was born had built around the prophet. The prophet saw. The prophet saw whether you become wealthy. The prophet saw with whom you find luck. The prophet saw what your health will miss. “I need you to join the chamber of poets,” the prophet continued.

The chambers were another curiosity that immediately strike a foreigner. Every aspect of life was organized by chambers. Those who played Baliset belonged to the chamber of Baliset players. Those who could only wink with their left eye belonged to the chamber of left-winkers. In fact, belonging to a chamber meant that one shared what the chamber was named after. One belonged to a chamber when one made a decision or when a decision was made for one. One changed chambers as part of being “one”.

“You have no right to question my actions. You have the power to see,” said Neosome, who was aware of the rules that even the prophet knew. “You must change so that I can preserve my power for you.” “Why should I sacrifice myself to preserve your abilities?”

The prophet hesitated only briefly: “You will profit from it. You will know your future better. You will anticipate your potential suffering.” “Being me is my concern.

Machine learning is, when stripped of its hypes, forms and practices, the project of developing computationally tractable, statistical machines. Since its uses are embedded in society and affect each and everyone of us, we are well motivated to ask: How does machine learning “see” me? I would like to draw renewed attention to a simple and old lesson for machine learning, which is based on its understanding as a statistical endeavor.

In his seminal work “The Logic of Chance,” John Venn anticipated many of the challenges that researchers in the field of machine learning are trying to overcome today with data or computing power as early as 1876: from the problem of individual predictions, to performativity and distribution shifts [2]. He furthermore articulated a key concern that, perhaps because it is too obvious, has been and continues to be neglected in statistical and technical debates about machine learning. Statistics is only possible once groups are defined. Respectively, statistics is the idea of losing information about singular events, phenomena, persons by aggregating them into groups. It is necessary to group data points by shared properties to compute such simple statistical quantities as an average. In fact, every representation of the world in terms of data points is a grouping itself. The numbers taken to represent itemized parts of the world define equivalence classes of “sameness”. Statistics, roughly speaking, is nothing more than relative counting of such groups. How many elements belong to a particular group compared to the number of elements in a higher-level group? Machine learning adds “syntactical sugar” as it enables complex interpolations between groupings and the ingestion of ever-larger amounts of data, i.e., grouped bits of reality.

Since machine learning touches on social reality, it permeates it through its need for grouping. Thus, in the face of statistical methods, an individual can only be

But I understand. You need me to belong to the chamber of poets writers to see me.” Neosome grew bolder. “I can neither deny nor can I confirm. I already see you. You are a ‘one’ in many chambers. Like everyone else.” “But then, prophet, what’s the problem?” “I see you blurred. You are in the chamber of those born in the north. You are in the chamber of the honest. You are ...”, the prophet shortly hesitated, “...the intersection of chambers to which you belong.”

The sudden realization shook Neosome. “And since I am who I am, I am the only one...”, Neosome continued, still surprised, “I’m an intersection of chambers that you cannot see, because there was no me before me.” The cube seemed dimmer and dimmer as it dawned upon the prophet that one of its secrets had been revealed.

understood through groups. In fact, what Roland Breiger refers to in his “The Duality of Persons and Groups” as a “metaphor of classical social theory” becomes a necessity [1]. For a statistical system, an individual is the intersection of social groups to which they belong. The system cannot see beyond that. Thus, identity is inevitably limited to such a restricted understanding when represented by statistical systems, e.g., machine learning models.

The promise of individuality in predictions, recommendations, or decisions inherent in the current narrative of machine learning is therefore a delicate undertaking. It is not the question whether statistical statements for individuals are wrong, but how they can still be useful. Individuality is not the strength, it is the Achilles’ heel of machine learning.

Letter From the Author

The goal of this short piece was to put in the spotlight an inherent limitation of machine learning systems when it comes to the interface of humans in society and the technical machine. Grouping is a necessity of statistical systems. Hence, all ideas of individuality, individuation, and identity in face of machine learning systems need to be thought through groups and categories. I wanted to use the story “Neosome and the Prophet” to contrast the vague feeling of “I want to be me” with this necessity of grouping. I don’t dare to specify the vague feeling, talk about empowerment, or discuss sense of belonging. Nor do I claim that the take of the necessity of groupings is new. This piece is meant to be a spotlight, not an actor, and “Neosome” is an anagram for “someone”.

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References

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- [2] John Venn. 1876. *The logic of chance: an essay on the foundations and province of the theory of probability, with especial reference to its logical bearings and its application to moral and social science* (2nd ed.). Macmillan and Company.

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