

Name:

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Title:

Artificial Intelligence, Philosophical Argumentation, and Aristotle's Ontological Taxonomy

Abstract:

Categorization is a basic human activity, central to how we think and understand the world. This process, while seemingly simple, connects to deeper philosophical inquiries about the nature of knowledge and being. Aristotle provides one of the earliest systematic treatments of classification, identifying ways in which beings can be grouped and understood based on their attributes and relationships. His ontological works laid the groundwork for centuries of philosophical and scientific inquiry into the organization of knowledge. Today, artificial intelligence employs sophisticated ontological taxonomies to categorize and infer relationships among things in the world, enabling machines to draw conclusions and answer questions with remarkable precision. An ontology in AI typically consists of a set of defined categories or classes and the relationships between them, which allows AI systems to represent knowledge in a way that mirrors the logical structure of human understanding. For example, in natural language processing, AI systems use ontologies to interpret and categorize the meaning of words and phrases within context. By recognizing the relationships between beings – such as dog being a kind of animal – AI can infer deeper meanings and make more accurate predictions. In this sense, ontologies help AI systems go beyond simple keyword recognition to a more nuanced understanding of language and concepts. Moreover, ontological frameworks in AI allow for logical reasoning and deduction, helping machines make inferences about new information. By using categories, AI can, for instance, infer that if a being X is a member of category Y, and category Y has a certain property, then X likely possesses that property as well. In essence, ontological categorization in AI allows machines to replicate, to some degree, the way humans organize and understand the world through categories. In my talk, I will discuss this continuity between Aristotle's foundational ideas and contemporary AI, which highlights the enduring significance of categorization in both philosophy and technology.