

## Building a Hierarchical, Granular Knowledge Cube

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**Abstract :** A knowledge base stores facts and rules about the world that applications can use for the purpose of reasoning. By applying the concept of granular computing to a knowledge base, several advantages emerge. These can be harnessed by applications to improve their capabilities and performance. In this paper, the concept behind such a construct, called a granular knowledge cube, is defined, and its intended use as an instrument that manages to cope with different data types and detect knowledge domains is elaborated. Furthermore, the underlying architecture, consisting of the three layers of the storing, representing, and structuring of knowledge, is described. Finally, benefits as well as challenges of deploying it are listed alongside application types that could profit from having such an enhanced knowledge base.

**Keywords :** granular computing, granular knowledge, hierarchical structuring, knowledge bases

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