

## Why we need Crossing

“Data, Information, Knowledge and Wisdom (DIKW) modals ”

towards Strong Artificial Intelligence?

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### Abstract:

Currently most AI methodologies and systems are built on hypothesis and assumptions of learning data distribution probabilities, information completeness, or logical consistency of knowledge systems, separately. However learning data distribution is hard to be guaranteed to be properly “Big” as BigData. Static data distribution is even more difficulty in terms of modeling dynamics of data sets. Information completeness will rely on not only various objective presentations of information but also the subjective purpose side inside human minds. Experience, commonsense and knowledge need coordination to keep conforming to value of wisdom.

The more hypothesis and assumptions on the current usages of Data, Information, Knowledge and Wisdom resources, they can be used effectively and efficiently. These hypothesis and assumptions will also means higher cost to collect, accumulate and processing relative resources.

Towards a more general AI landscape, which maps to the real situations that we only have small or insufficient data, partial information and diversified knowledge under a vague value strategy, with enriched processing capability, we propose to integrate the power or value of Data, Information, Knowledge and Wisdom resources to fit more general AI application scenarios with less cost as well as improve effectiveness and efficiency through conversions among Data, Information, Knowledge and Wisdom.

Availability and Cost of DIKW resources per unit is only the First Half of this story. Another Half of the story is more theoretical and technically subversive or revolutionary: in daily reality, we expect more

intuitive results in the proper forms, e.g. proper imprecision, proper correctness, proper uncertainty, of data, information, knowledge and wisdom, instead of over qualified precision, correctness, and certainty, at unwanted consumption of energy of reasoning and computation, and waiting time. In transformations among DIKW elements and DIKW Graphs (Data Graph, Information Graph, Knowledge Graph and Wisdom Graph), we find the integrated solution covering both objective and subjective semantics.

Research group website: <http://www.yucongduan.org>

DIKW conference: <https://dikwra.org/>