

Modelling and AI for Integration of Cyber and Physical World

Development of a new deep-learning model that can handle both images and symbolic data and studies on its interaction with humans

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Summary :

We will develop deep learning that realizes both *intuition* that decides by just glancing at an image and *logical thinking* that considers with symbols. We aim to build *the artificial intelligence (AI) that can derive ten concepts from just one*, like a wise person does. We will explore the “wise” AI that works with humans effectively. In this study, we aim to develop a “wise” AI that works with humans effectively as fundamental technology for building a *super-smart society*. We will perform the following three research projects in order to build *the wise AI*:

- 1) We aim to develop *the wise AI* that can learn efficiently from a very small number of cases.
- 2) We aim to *open up the “black box”* of deep learning by implementing a mechanism that can show reasons for the prediction.
- 3) We will explore the methodology that enables AI and humans work together effectively by analyzing the interaction between the wise AI and humans.

