



## The SP Theory of Intelligence and its potential in robotics

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### Abstract:

The SP System, meaning the SP Theory of Intelligence and its realisation in the SP Computer Model, is the product of a lengthy programme of research, which now provides solutions or potential solutions to several problems in AI research [1]. There is an extended overview of the SP System in [2], and there is a much more comprehensive description in [3]. Details of related publications, with download links, are on [www.cognitionresearch.org/sp.htm](http://www.cognitionresearch.org/sp.htm).

This presentation is about how the SP System may prove useful in the development of intelligence in robots. A peer-reviewed, published, paper about this is in [4].

The main theme of this presentation is generality, as described in the following subsections.

### Generality needed for AI in robots

Where some degree of autonomy and intelligence are required in robots, it seems fair to say that capabilities that have been developed so far are quite narrowly specialised, such as vacuum cleaning an apartment or a house, navigating a factory floor, walking over rough ground, and so on.

It seems fair to say that there is a pressing need to provide



robots with human-like generality and adaptability in intelligence.

### Publication of speakers:

1. Problems in AI research and how the SP System may help to solve them” (PDF, [tinyurl.com/yxb8h822](http://tinyurl.com/yxb8h822), submitted for publication).
2. The SP Theory of Intelligence: an overview” (PDF, Information, 4 (3), 283-341, 2013, [bit.ly/1NOMJ6l](http://bit.ly/1NOMJ6l)).
3. The book Unifying Computing and Cognition: the SP Theory and Its Applications may be obtained via links from [tinyurl.com/y4f55a45](http://tinyurl.com/y4f55a45).
4. Autonomous robots and the SP Theory of Intelligence” (PDF, IEEE Access, 2, 1629-1651, 2014, [bit.ly/18DxU5K](http://bit.ly/18DxU5K)).