

## Semantic, Cognitive, and Perceptual Computing: Advances toward Computing for Human Experience

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The next important focus of human centered computing is to endow the Web, and computing in general, with sophisticated, human-like capabilities to reduce information overload. In the near future, computers will be able to process and analyze data, in a *highly contextual and personalized* manner, at a scale much larger than the human brain is able to handle.

## Cognitive Machine-to-Machine Communications: Visions and Potentials for the Smart Grid

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Cognitive radio enabled machines are able to sense and utilize unused frequency bands in their surroundings. Cognitive radio utilizes the potential that wireless systems have when they are *context aware and capable of reconfiguration based on their environments* and their own properties.

## Text Mining for Biology and Biomedicine

by Sophia Ananiadou, John McNaught

With the volume of biomedical research growing exponentially worldwide, the demand for *information retrieval* expertise in the field has never been greater. Here's the first guide for bioinformatics practitioners that puts the full range of biological *text mining* tools and techniques at their fingertips in a single dedicated volume. It describes the methods of *natural language processing* (NLP) and their applications in the biological domain, and spells out the various *lexical, terminological, and ontological* resources at their disposal - and how best to utilize them.