

---

## **Editorial: Machine intelligence and sensory signal processing – inspirations from human intelligence and information processing**

---

A.P. James

School of Engineering,  
Nazarbayev University,  
53 Kabanbay Batyr Ave.,  
010000 Astana, Kazakhstan  
E-mail: apj@ieee.org

---

The *International Journal of Machine Intelligence and Sensory Signal Processing* is devoted to report engineering applications and theory resulting from the understanding of human intelligence and sensory processing mechanisms. This forum appreciate that mimicking intelligence is not just an algorithmic process but inherently involve physical mechanisms and system challenges, and that it can be implemented in real-time hardware. Methodological findings that mimic or imitate the intelligence to progress the state of the art applications is largely encouraged.

Complexity in scaling is another thrust area of interest to the journal, as it identifies the ability of a naturally intelligent system to learn and adapt to difficult problems involving large data to be naive yet a difficult problem to machines. Hardware scaling, i.e., ability of the machine to physically grow and gain resources, using the concepts of modularity and hierarchy is encouraged. Algorithmic scaling is another aspect, that is supported by this journal, where the intelligent algorithms can cope with increased data sizes and use less physical resources.

In this issue, we present six papers, out of which two papers represent the theoretical aspects of machine intelligence:

- 1 Case-based reasoning in computers and human cognition: a mathematical framework by M. Voskoglou
- 2 Global exponential stability result for complex valued hysteretic neuron model by G. Padmavathi et al.

They provide two different views on modelling machine intelligence and that can be applied to the development of algorithmic and hardware intelligent systems.

Four out of the six papers in this issue reflect the applications of machine intelligence in various domains ranging from speech recognition to sensor localisation:

- 1 Biologically inspired features used for robust phoneme recognition by M. Milacic et al.
- 2 Grinding control using artificial neural networks with AE feedback by K. Wang and X. Sheng
- 3 Gait recognition using sub-vector quantisation technique by N. Pandey et al.

4 Multi-camera localisation: a review by R. Raman et al.

The journal does not want to promote or even suggest a strict definition and application of machine intelligence but instead is open to all kinds of views and approaches. We encourage short papers that deal with new theories, ideas and application in as much concise and clear manner to be read by a multi-disciplinarily community. As reflective to this issue, the submission to decision time has been less than 2 months, and some of the papers have gone through two or more rounds of constrictive reviews.

The editorial board has broad and high-level expertise in the domain of intelligence and will ensure the quality and frontier character of the contributions. The journal plans to add new editorial members and reviewers on a regular basis to reflect emerging areas in the field of machine intelligence. The success of the journal depends on your contributions in the form of author to papers, as a reviewer, through guest editorials for special issues, and through your feedback on our publication policy. I welcome high quality submissions in the upcoming issues. The call for papers in the upcoming special issues and regular issues can be found in: <http://www.inderscience.com/ijmissp>.