

## **A Special Issue on Fuzzy Based AI: Emerging Techniques and Their Applications**

### **1 AIMS AND SCOPE**

Nowadays, artificial intelligence (AI) has attracted much attention from researchers, industries and governments. It is our attempt to form a forum to bring together all emerging techniques for fuzzy based AI to set a milestone for the related research. It is certain that fuzzy can play an important role in the development of AI techniques and also can be viewed as one sub topic of AI. In fact, natural language processing is known as the pearl on the crown of artificial intelligence. Fuzzy sets can offer an effective paradigm for accurate understanding of natural language as a bridge to human intelligence through definitions of fuzzy membership functions, which leads to the use of type 2 fuzzy sets. In addition to type-2, there are also other fuzzy representation schemes that may also bridge this gap. Those representations can provide more freedom to describe the membership information, and hence can address the problem of linguistic ambiguity and data noise. Besides, the relationship between variation in decision making and how to incorporate variation into AI systems are also important for the research in AI and fuzzy systems. Of course, the related applications are also key elements for the research. After all, AI and fuzzy are most application-driven research. Many applications related to those developments have demonstrated advantages. The special issue will cover a broad range of topics in the field of fuzzy based AI, exploring the developments and advances in theoretical studies and its applications. We want to highlight the use of fuzzy models for designing explainable AI approaches, papers discussing this problem are welcome.

### **2 TOPICS COVERED**

Authors are invited to submit their original and unpublished work in the areas including (but not limited to) :

- AI based fuzzy systems
- New paradigms for AI and fuzzy systems
- Natural language processing in AI
- Computing with words and decision making
- Knowledge extraction with fuzzy systems
- Explainable AI with fuzzy systems

### **3 SUBMISSION GUIDELINES**

Ensure your paper is within the scope of this Special Issue.

All authors should read 'Information for Authors' before submitting a manuscript at <https://cis.ieee.org/publications/t-fuzzy-systems>.

Submissions should be through the IEEE TFS journal website <http://mc.manuscriptcentral.com/tfs-ieee>. Submissions should also be in the correct format <https://cis.ieee.org/publications/t-fuzzy-systems/manuscript-format>. It is essential that your manuscript is identified as a Special Issue contribution:

- Ensure you choose 'Special Issue' as the type of paper when submitting.
- A cover letter must be included which includes the title 'AI and Fuzzy Systems: Emerging Techniques and their Applications'

Submissions to this Special Issue must represent original material that has been neither submitted to, nor published in, any other journal. We do not consider papers previously published in conference proceedings.

#### **4 IMPORTANT DATES**

Submission deadline: 1 August 2019

Publication (tentative) : June 2020

#### **5 GUEST EDITORS**

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