

[Talk Title]

Fusion Technology of Neural Networks, Fuzzy Systems, and Evolutionary Computation

[Abstract]

Soft computing technologies such as NN (neural networks), FS (fuzzy systems), GA (genetic algorithms), and chaos engineering have been widely researched and are in frequent use in the real world today. These technologies not only can be used independently as stand-alone technologies but also can be used cooperatively with each other.

This talk introduces different types of cooperative research models and how they have been applied to various consumer products and industrial systems. About 20 real world applications will be introduced including cooperative as well as stand-alone technologies.

This talk also introduces these cooperative soft computing technologies incorporating the human factor for engineering purposes, such as system optimization, design support systems, virtual reality, data mining, database retrieval, etc.

Through these case studies and analysis of recent researches, participants will learn when and how each technique or combination of techniques can be used as well as how to use them to open new directions for their R&D.

[Reference]

Hideyuki Takagi, "Fusion Technology of Neural Networks and Fuzzy Systems: A Chronicled Progression from the Laboratory to Our Daily Lives," International Journal of Applied Mathematics and Computer Science, Vol.10, No.4, pp.647-673 (2000).

(See <http://www.design.kyushu-u.ac.jp/~takagi/TAKAGI/otherPapers/MathCS1.pdf>)