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Research Interests: engineering economics, quality management, statistical decision making, multicriteria decision making, and fuzzy decision making

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Biography:

Prof. Dr. Selcuk Cebi is currently a Professor of Industrial Engineering at Yildiz Technical University. He received the degree of Ph.D. from Industrial Engineering Program of Istanbul Technical University in 2010 and the degree of MSc from Mechanical Engineering Department of Karadeniz Technical University in 2004. His Ph.D. was on decision support system and axiomatic design. He took part as a researcher in many privately and publicly funded national projects. His current research interests are Decision support systems, Customer-oriented product development, Risk Management, and Multiple Criteria Decision Making. He achieved the publications of international journal papers more than 70 articles having over 3927 total citations with the related research topics and his h-index is 26 (GoogleAcademic).

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Description:

Fuzzy Sets and Artificial Intelligence

Fuzzy sets, one of the AI tools, are widely used in industrial applications such as control systems engineering, image processing, power engineering, industrial automation, robotics, consumer electronics, language processing and optimization. It is extensively used in modern control systems such as in air conditioners, automobile and vehicle subsystems as automatic transmissions, ABS and cruise control, cameras, elevators, language filters on message boards and chat rooms for filtering out offensive text, animation-based films, pattern recognition in remote sensing, video game artificial intelligence, dishwashers, and washing machine. These are some of the common applications of the Fuzzy Logic. In this Collection, we aim to publish high quality papers on artificial intelligence theory and applications based on fuzzy set theory such as fuzzy machine learning, fuzzy deep learning, fuzzy data mining, fuzzy big data analysis, and swarm intelligence. Metaheuristics such as ant colony optimization, artificial bee colony optimization, particle swarm optimization, tabu search, genetic algorithms, and simulated annealing is other modeling techniques based on AI. These techniques have been often integrated with fuzzy set extensions in the literature. The recently developed fuzzy set extensions such as intuitionistic fuzzy sets, hesitant fuzzy sets, neutrosophic sets, picture fuzzy sets, spherical fuzzy sets, q-rung orthopair fuzzy sets, t-spherical fuzzy sets, fermatean fuzzy sets, and Pythagorean fuzzy sets can be used in metaheuristic modeling for AI applications.

Keywords:

Intuitionistic fuzzy sets, hesitant fuzzy sets, neutrosophic sets, picture fuzzy sets, spherical fuzzy sets, q-rung orthopair fuzzy sets, t-spherical fuzzy sets, fermatean fuzzy sets, Pythagorean fuzzy sets, fuzzy decision making, fuzzy control, fuzzy inference systems, fuzzy neural networks, adaptive neuro fuzzy inference systems, humanoid robots, fuzzy machine learning, fuzzy deep learning, fuzzy data mining, fuzzy big data analysis, metaheuristics, swarm intelligence, ant colony optimization, artificial bee colony optimization, expert systems, natural language processing, speech recognition and machine vision.