Fuzzy Techniques for Intelligent Decision Making

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Overview

All physical observations and measurements, including human perceptions, are fraught with uncertainty or errors. Randomness is also a form of uncertainty. Words do not have exact meanings; even simple words like green and good have different shades of meaning and some impreciseness. Proper modeling of uncertainty is therefore of paramount importance for intelligent decision making, which includes data mining (analysis), machine learning (knowledge extraction), and inferencing. Fuzzy techniques provide a useful alternative to the probabilistic and statistical approach. Indeed, many things do not fall in the realm of the later. In particular, fuzzy techniques allow a way of building "soft" evaluation or decision when our inputs are not simple and precise true-false type facts. As one can expect, fuzzy techniques sometimes can be combined with probabilistic techniques in new and unconventional ways to better model many applications.

There have been several new recent advances in fuzzy techniques, with important applications in handling large and imprecise data, intelligent decision-making, including successful applications in machine learning and data mining. This short course will introduce some of the new developments. The course will stimulate interest in this exciting area for both students and researchers, and introduce them to some key ideas making them ready to explore the techniques further, develop new results, and find useful and interesting applications. Each new topic is dealt with in three phases: Development of key concepts and results, illustrative examples and applications, and a list of research questions.

Modules	**A: Fuzzy Techniques for Intelligent Decision Making: Dec 11, 2017 - Dec 15, 2017**
You Should Attend If…	▪ you are a student or faculty from academic institution or industry person interested in learning and applying fuzzy techniques. ▪ **Number of participants for the course will be limited to fifty.**
Fees	The participation fees for taking the course is as follows: **Participants from abroad : US $100** **Industry/ Research Organizations: Rs 4000** **Faculty Members from Academic Institutes: Rs 2000** **Students/Research Scholars: Rs 1000** The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. The participants will be provided with accommodation, if available, on payment basis.

The Foreign Faculty

Dr. Sukhamay Kundu is an associate professor in School of Electrical Engineering and Computer Science of Louisiana State University, USA. He has a PhD from University of California, Berkeley. He has received several awards- such as Teaching Excellence Award, Innovative Teaching Award, etc. His current research interests are Software Modeling and analysis, Fuzzy Techniques, Graph Algorithm, Data mining, clustering and machine learning. He got Fulbright Scholar awards twice in (1994, 2004).

The Course Coordinators

Dr. Samrat Mondal is an Assistant Professor in the department of Computer Science & Engineering, Indian Institute of Technology Patna. His research interest includes Database-Data Mining and Security & Privacy.

Dr. Jimson Mathew is an Associate Professor of Department of Computer Science & Engineering, Indian Institute of Technology, Patna. His research interest includes Fault-tolerant computing, VLSI Design and Methodologies, Reliability Aware Designs, Hardware Security.

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