CS5486

Intelligent Systems

Spring Semester, 2025

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Reference Books:

1) R. Rojas, Neural Networks: A Systematic Introduction, Springer, 1996.
2) C.-T. Lin and C.S. G. Lee, *Neural Fuzzy Systems*, Prentice Hall, 1996.
3) J. M. Zurada, *Introduction to Artificial Neural Systems*, West, 1992.
4) S. Haykin, *Neural Networks: A Comprehensive Foundation* (2^{nd} Ed), Prentice-Hall, 1999.

Lecture and tutorial sessions:

Friday 14:00-16:50

Course Outline: Concepts, models, and methods of intelligent systems. Topics include neural networks, support vector machines, fuzzy logic, simulated annealing, genetic algorithms, and their applications

Grading Policy:

Midterm exam 40%, final exam 50%, project assignments: 10%

Course Objectives

This course provides students with

1. ability to understand basic concepts of intelligent systems,
2. ability to solve various modeling and computational problems using computational intelligence techniques,
3. ability to apply various computational intelligence approaches to in scientific and engineering applications encompassing mechanical engineering, electrical engineering, and manufacturing engineering.

Teaching/Learning Expectations

It is to remind the students that they should not skip classes casually without any justification and that they should keep silent during the lecture sessions (for the sake of the others in the class and to respect the right of the instructions). Similarly, the course instructor/assistant should not skip or cancel classes/tutorials (cancellation and postponement of classes require justification + official approval from the responsible office).

Academic Honesty

Students are expected to conform to the highest standards of honesty and integrity. Students are encouraged to discuss course material to foster the motivation of ideas and produce high-quality works. They may work together in the preliminary stages of individual homework assignments, but the final work must reflect their originality and individual efforts. Plagiarism is considered a disciplinary offense that can result in reduced grades, failed subjects, and suspension from the university.