Introduction to Artificial Intelligence (EECE/COMP 4720/6720)
Fall 2025

Instructor: Bonny Banerjee, Ph.D.

Contact Information:
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Office Hours: By appointment

When: Tue, Thu 1:00 pm-2:30 pm
Where: FCBE Room 125

Course Description:
Fundamentals of programming in LISP; central ideas of artificial intelligence, including heuristic search, problem solving, slot-and-filler structures, and knowledge representation.

Note: Prior knowledge in LISP is not required. Class project will involve some programming that can be done in any language (C/C++/C#, Java, MATLAB, Python, etc.). Any student not comfortable with programming should talk to the instructor in the first class.

Prerequisites:
EECE 2207 Engineering Math Applications (3 credits), or COMP 2150 Object-Oriented Programming and Data Structure (4 credits), or permission of instructor.

Required Text:
Artificial Intelligence: A Modern Approach by Stuart Russell and Peter Norvig

Syllabus:
Introduction to a computational approach to artificial intelligence, intelligent agents, problem solving by searching, beyond classical search, logical agents, first-order logic, inference in first-order logic, classical planning, planning and acting in the real world, quantifying uncertainty, probabilistic reasoning, probabilistic reasoning over time.

Topics (15 weeks):
Course aims and agenda
Chapter 1: What is “intelligence”?

Chapter 2: Intelligent agents
Chapters 3-6: Problem solving
Chapters 7-12: Knowledge, reasoning and planning
Chapter 13: Quantifying uncertainty
Chapter 14: Probabilistic reasoning

Important dates:
8/26 (Tuesday): First class
10/9 (Thursday): Midterm exam
10/14 (Tuesday): No class -- Fall Break
11/27 (Thursday): No class -- Thanksgiving
12/2 (Tuesday): Last class (project reports due)
12/11 (Thursday): Final exam (10:30 am-12:30 pm)

Evaluation and Final Grades:
Grading: Homework 25%, Midterm 25%, Final 25%, Project 25%.
The 4720 and 6720 sections will be graded separately. In each exam and homework, the students enrolled for 6720 will have to answer more questions.