

**Time****Friday 10-noon****Presenter** Ingrid Russell, University of Hartford**PI** Ingrid Russell, University of Hartford**Co-PIs** Zdravko Markov, Central Connecticut State University  
Todd Neller, Gettysburg College**Title** Machine Learning Laboratory Experiences for Introducing Undergraduates to Artificial Intelligence**Summary** This project unifies the Artificial Intelligence (AI) course around the theme of machine learning and creates a framework for core AI concepts around that theme. The project develops and tests an adaptable framework for presenting core AI topics that emphasizes the relationship between AI and computer science in general, and software development in particular. It is producing a suite of adaptable hands-on laboratory projects that can be closely integrated into a one-term AI course.**Abstract** Our project incorporates machine learning as a unifying theme to teach fundamental concepts typically covered in the introductory Artificial Intelligence courses. Machine learning is inherently connected with the AI core topics and provides methodology and technology to enhance real-world applications within many of these topics. Our project adapts exemplary work in machine learning with the specific objectives listed below:

- Enhance the student learning experience in the AI course by implementing a unifying theme of machine learning to tie together the diverse topics in the AI course.
- Increase student interest and motivation to learn AI by providing a framework for the presentation of the major AI topics that emphasizes the strong connection between AI and computer science.
- Highlight the bridge that machine learning provides between AI technology and modern software engineering.
- Introduce students to an increasingly important research area, thus motivating them to pursue more advanced courses in machine learning and to pursue undergraduate research projects in this area.

These objectives are accomplished through the development of an adaptable framework for the presentation of core AI topics. Our work involves the development, implementation, and testing of a suite of adaptable, hands-on laboratory projects that can be closely integrated into the AI course.

**Keywords** Artificial Intelligence Education, Machine Learning**Requested Materials** none