TIM-8150: Artificial Intelligence

(3 credits)

# Overview

## Course Description:

Artificial intelligence is becoming more and more useful in helping solve everyday problems. Intelligent agents and natural language processing have become common in the marketplace. During this course, you will evaluate the impact of artificial intelligence on performance and enterprise resources. You will also expand your ability to improve an artificial intelligence application to address varied user specifications. Finally, you will be able to produce a complete artificial intelligence project plan that will integrate with current and proposed IT solutions for process improvement.

## Course Learning Outcomes:

1. Examine the impact of artificial intelligence algorithms on everyday computing system performance.
2. Evaluate artificial intelligence agents and resources in a structured manner to meet industry demands.
3. Devise improvements to artificial intelligence research and the potential to impact society.
4. Evaluate problem-solving approaches for artificial intelligence solutions.
5. Formulate artificial intelligence solutions to solve industry challenges.

## Course Concepts:

1. Introduction to Artificial Intelligence
2. Neural Computation
3. Natural Language Processing
4. Machine Learning in Business
5. Process and Task Automation
6. Intelligent Agents and Collective Intelligence
7. Ethical and Social Implications of Artificial Intelligence
8. The Future of Artificial Intelligence

## Course Outline:

#### Week 1: Introduction to Artificial Intelligence

##### Week 1 Assignment: Describe the Core AI Technologies (8 Points)

#### Week 2: Neural Computation

##### Week 2 Assignment: Explore Neural Network Technologies (10 Points)

#### Week 3: Natural Language Processing

##### Week 3 Assignment: Outline the Core Elements of Natural Language Processing (13 Points)

#### Week 4: Machine Learning in Business

##### Week 4 Assignment: Describe the Characteristics of Machine Learning (10 Points)

#### Week 5: Process and Task Automation

##### Week 5 Assignment: Provide an Account of the AI Technologies used in Autonomous Vehicle Designs (13 Points)

#### Week 6: Intelligent Agents and Collective Intelligence

##### Week 6 Assignment: Appraise the Current Status of Research on Intelligent Agents and their Application to Businesses (13 Points)

#### Week 7: The Ethical and Social Implications of Artificial Intelligence

##### Week 7 Assignment: Discuss Threats and Challenges of AI in Business and Society (13 Points)

#### Week 8: The Future of Artificial Intelligence

##### Week 8 Signature Assignment: Integration of AI Technologies in Business Operations and Decision Making (20 Points)