Artificial Intelligence

Syllabus for Final Term Exam

Course Instructor: Samyan Qayyum Wahla

Text Book:
T1: Artificial Intelligence A Modern Approach Fourth Edition Stuart J. Russell and Peter Norvig https://t.ly/EAl3P

Topic	Sub Topics	Reading Materials
Course Basics		
Basics	What is AI? History Course Roadmap Rational Agents/Environments Optimization Algorithms	T1: Chapter 1, Chapter 2 Slides: https://shorturl.at/frQSW https://shorturl.at/mtuOZ https://shorturl.at/glY26 https://shorturl.at/eLS03
State Based Models		
Search Problems	Modelling of Search Problem Inference Tree Search Methods Graph Search Methods Learning: Structured Perceptron	T1: Chapter 3 Slides: https://t.ly/yPR1k https://t.ly/A-lMV
MDPs	Modelling Reinforcement Learning	Slides: https://t.ly/ee8ZY
Games	Modelling of Games Minmax/Expectimax/Expectiminmax	T1: Chapter 6(6.1-6.3) Slides: https://t.ly/0wWRC
Variable Based Models		
Constraint Satisfaction Problems	Factor Graphs Assignment Graph CSPs	T1: Chapter 5(5.1-5.3) Slides: https://shorturl.at/oqwMZ
Logic		
Proposition Logic	Syntax of Logic Inference Rules Horn Clauses	T1: Chapter 7 Slides: https://shorturl.at/yBR24
First Order Logic	Unification Forward Chaining Backward Chaining	T1: Chapter 8 Slides: https://shorturl.at/yBIPQ
Machine Learning		
Machine Learning Framework	Learner Predictor	Slides: https://shorturl.at/eyzAR
Neural Networks Basic	Regression Forward Pass Gradient Descent Loss Functions	T1: Slides: https://shorturl.at/cimFI Coursera Content: Week1 to Week3 of Neural Network and Deep Learning Course https://shorturl.at/flrAH
Unsupervised Learning	Clustering KMeans	Slides: https://shorturl.at/cyCOU