



Jordan University of Science and Technology
Faculty of Computer & Information Technology
Computer Science Department

CS763 Machine Learning

First Semester 2022-2023

Course Catalog

3 Credit Hours. This course introduces the students to Machine Learning, which uses interdisciplinary techniques such as statistics, linear algebra, optimization, and computer science to create automated systems that can sift through large volumes of data at high speed to make predictions or decisions without human intervention. Machine learning has been essential to the success of many recent technologies, including autonomous vehicles, search engines, genomics, automated medical diagnosis, image recognition, and social network analysis, among many others. This class will familiarize students with a broad cross-section of models and algorithms for machine learning and prepare students for research or industry application of machine learning techniques.

Text Book

Title	Hands-on Machine Learning with Scikit-Learn, Keras & TensorFlow
Author(s)	Aurélien Géron
Edition	3rd Edition
Short Name	ML
Other Information	

Instructor

Name	Dr. Malak Abdullah
Office Location	A1-L3
Office Hours	Sun : 10:00 - 12:00 Tue : 10:00 - 12:00 Wed : 11:30 - 12:30 Thu : 10:00 - 11:00
Email	mabdullah@just.edu.jo

Class Schedule & Room

Section 1:

Lecture Time: Wed : 12:30 - 15:30

Room: A3129

Tentative List of Topics Covered

Weeks	Topic	References
Week 1	Introduction to Machine Learning + Algebra + Python	From ML
Week 2	Linear and Logistic Regression	From ML
Weeks 3, 4, 5	Classification: SVMs and Decision Trees	From ML
Weeks 6, 7	Ensemble Learning, Random Forest, Feature Selection	From ML
Week 8	Neural Network	From ML
Week 9	Convolutional Neural Network	From ML
Week 10	Recurrent Neural Network	From ML
Week 11	Reinforcement Learning	From ML
Weeks 12, 13	Reinforcement Learning Any Other related topics	From ML

Mapping of Course Outcomes to Program Student Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understand and describe how computers can learn from experience [1SO6]	30%	
Use Machine Learning techniques for classification and measuring their accuracy [1SO2]	20%	
Apply Deep Learning techniques for classification and regression. [1SO2]	50%	

Relationship to Program Student Outcomes (Out of 100%)

SO1	SO2	SO3	SO4	SO5	SO6
	70				30

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