SUBJECT TEACHING GUIDE

364 - Neural Networks

Master's Degree in Mathematics and Computing

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Master's Degree in Mathematics and Computing			Type and Year	Optional. Year 1
Faculty	Faculty of Sciences				
Discipline					
Course unit title and code	364 - Neural Networks				
Number of ECTS credits allocated	3	Term		Semester based (2)	
Web	https://personales.unican.es/crespoj/redes/Cursoredes.html				
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. MATEMATICA APLICADA Y CIENCIAS DE LA COMPUTACION
Name of lecturer	JOSE LUIS CRESPO FIDALGO
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Other lecturers	

3.1 LEARNING OUTCOMES

- -Neural networks basics: modelling and learning; links with standard statistical and optimization techniques
  -Informed algorithm choice
  -Real life problem solving with neural networks
  -Choice of neural netowrk type

4. OBJECTIVES

Real life problem solving
Context-based method choice
Introduction to modeling and learning with neural networks; including statistics and optimization considerations
Neural networks algorithms understanding

6. SUBJECT PROGRAM

CONTENTS	
1	Neural network definition.
2	Feedforward multilayer perceptron
3	Deep networks
4	Other type of networks
5	Machine learning challenges

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Neural networks exams	Laboratory evaluation	No	Yes	75,00
Class exercises	Laboratory evaluation	No	Yes	25,00
TOTAL				100,00

Observations

Should any prevailing requirements forbid face-to-face evaluation, number, weights, conditions and exercise types would vary.

Observations for part-time students

Half-time students may opt for a final makeup exam.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Aggarwal, Charu C
Neural Networks and Deep Learning A Textbook
Springer International Publishing AG
ISBN: 3-319-94462-2, 978-3-319-94462-3