

# **European IT Certification Curriculum Self-Learning Preparatory Materials**

EITC/AI/ADL Advanced Deep Learning



This document constitutes European IT Certification curriculum self-learning preparatory material for the EITC/AI/ADL Advanced Deep Learning programme.

This self-learning preparatory material covers requirements of the corresponding EITC certification programme examination. It is intended to facilitate certification programme's participant learning and preparation towards the EITC/AI/ADL Advanced Deep Learning programme examination. The knowledge contained within the material is sufficient to pass the corresponding EITC certification examination in regard to relevant curriculum parts. The document specifies the knowledge and skills that participants of the EITC/AI/ADL Advanced Deep Learning certification programme should have in order to attain the corresponding EITC certificate.

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This part of the material is currently undergoing an update and will be republished shortly.

## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: INTRODUCTION

**TOPIC: INTRODUCTION TO ADVANCED MACHINE LEARNING APPROACHES** 





### EITC/AI/ADL ADVANCED DEEP LEARNING - INTRODUCTION - INTRODUCTION TO ADVANCED MACHINE LEARNING APPROACHES - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: NEURAL NETWORKS

**TOPIC: NEURAL NETWORKS FOUNDATIONS** 





### $\textbf{EITC/AI/ADL ADVANCED DEEP LEARNING - NEURAL NETWORKS - NEURAL NETWORKS FOUNDATIONS - REVIEW QUESTIONS: \\$





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: ADVANCED COMPUTER VISION TOPIC: CONVOLUTIONAL NEURAL NETWORKS FOR IMAGE RECOGNITION





### EITC/AI/ADL ADVANCED DEEP LEARNING - ADVANCED COMPUTER VISION - CONVOLUTIONAL NEURAL NETWORKS FOR IMAGE RECOGNITION - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: ADVANCED COMPUTER VISION TOPIC: ADVANCED MODELS FOR COMPUTER VISION





### EITC/AI/ADL ADVANCED DEEP LEARNING - ADVANCED COMPUTER VISION - ADVANCED MODELS FOR COMPUTER VISION - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: OPTIMIZATION

**TOPIC: OPTIMIZATION FOR MACHINE LEARNING** 



### $\textbf{EITC/AI/ADL ADVANCED DEEP LEARNING - OPTIMIZATION - OPTIMIZATION FOR MACHINE LEARNING - REVIEW QUESTIONS: \\$





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: RECURRENT NEURAL NETWORKS TOPIC: SEQUENCES AND RECURRENT NETWORKS





### EITC/AI/ADL ADVANCED DEEP LEARNING - RECURRENT NEURAL NETWORKS - SEQUENCES AND RECURRENT NETWORKS - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: NATURAL LANGUAGE PROCESSING TOPIC: ADVANCED DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING





EITC/AI/ADL ADVANCED DEEP LEARNING - NATURAL LANGUAGE PROCESSING - ADVANCED DEEP LEARNING FOR NATURAL LANGUAGE PROCESSING - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: ATTENTION AND MEMORY TOPIC: ATTENTION AND MEMORY IN DEEP LEARNING





### EITC/AI/ADL ADVANCED DEEP LEARNING - ATTENTION AND MEMORY - ATTENTION AND MEMORY IN DEEP LEARNING - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: GENERATIVE ADVERSARIAL NETWORKS TOPIC: ADVANCES IN GENERATIVE ADVERSARIAL NETWORKS





EITC/AI/ADL ADVANCED DEEP LEARNING - GENERATIVE ADVERSARIAL NETWORKS - ADVANCES IN GENERATIVE ADVERSARIAL NETWORKS - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: UNSUPERVISED LEARNING TOPIC: UNSUPERVISED REPRESENTATION LEARNING





EITC/AI/ADL ADVANCED DEEP LEARNING - UNSUPERVISED LEARNING - UNSUPERVISED REPRESENTATION LEARNING - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: ADVANCED GENERATIVE MODELS TOPIC: MODERN LATENT VARIABLE MODELS





### EITC/AI/ADL ADVANCED DEEP LEARNING - ADVANCED GENERATIVE MODELS - MODERN LATENT VARIABLE MODELS - REVIEW QUESTIONS:





## EITC/AI/ADL ADVANCED DEEP LEARNING DIDACTIC MATERIALS LESSON: RESPONSIBLE INNOVATION TOPIC: RESPONSIBLE INNOVATION AND ARTIFICIAL INTELLIGENCE





### EITC/AI/ADL ADVANCED DEEP LEARNING - RESPONSIBLE INNOVATION - RESPONSIBLE INNOVATION AND ARTIFICIAL INTELLIGENCE - REVIEW QUESTIONS:

