LIVERPOOL JOHN MOORES UNIVERSITY

Programme Specification Document

Approved, 2022.02

Overview

Programme Code	36269
Programme Title	Artificial Intelligence and Machine Learning
Awarding Institution	Liverpool John Moores University
Programme Type	Masters
Language of Programme	All LJMU programmes are delivered and assessed in English
Programme Leader	
Link Tutor(s)	Dhiya Al-Jumeily

Partner Name	Partnership Type
UpGrad Education Private Limited	Franchised

Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Master of Science - MS	See Learning Outcomes Below

Alternate Award Names	

External Benchmarks

Subject Benchmark Statement	

Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Part-Time, Face to Face	August	UpGrad Education Private Limited	7 Months
Part-Time, Face to Face	February	UpGrad Education Private Limited	7 Months
Part-Time, Face to Face	May	UpGrad Education Private Limited	7 Months
Part-Time, Face to Face	November	UpGrad Education Private Limited	7 Months

Aims and Outcomes

Educational Aims of the Programme

This programme is aimed for students to learn how to design and develop machine learning and intelligent systems technologies, for the purpose of preparing the students for a range of careers in industry. Intelligent systems are increasingly involved in different areas of human life, for example medicine, space exploration, intelligent agriculture, automated vehicles and more. Machine learning is at the heart of these types of intelligent systems, which are developed using the recent developments in data science and big data across many real world applications. The aim of the programme is to use new knowledge and advance techniques to solve complex machine learning and intelligent systems problems. The students will develop a range of skills including the theory of machine learning, artificial intelligence. They will have an understanding of the principles underlying the development and application of new techniques in the area of machine learning, alongside an awareness of, and ability to analyse the range and scope of algorithms and approaches available, and design, develop and evaluate appropriate algorithms and methods for new problems and applications.

Learning Outcomes

Code	Description
PLO1	Demonstrate a thorough knowledge of the different techniques for Machine Learning
PLO2	Use computer skills to access research literature and communicate online with peers
PLO3	Collate, analyse and interpret large data sets (which could include unstructured data "Big Data")
PLO4	Critically evaluate complex issues in Machine Learning
PLO5	Demonstrate the dissemination of information and knowledge to diverse audiences
PLO6	Prepare research proposals and business cases in the area of Machine Learning and Intelligent Systems
PLO7	Be able to adapt knowledge and skills to unfamiliar problem domains
PLO8	Communicate effectively, both written and verbally
PLO9	Use IT to access, prepare, process and present and transmit information

Code	Description
PLO10	Break down complex problems into a logically structured set of achievable tasks
PLO11	Prioritise tasks, manage time effectively and work as part of a team
PLO12	Demonstrate a clear understanding of the legal, ethical and data protection issues in intelligent systems and Machine Learning
PLO13	Demonstrate practical experience of the solution of problems in developing intelligent systems using appropriate computational languages, methods and techniques
PLO14	Show originality in the application of knowledge, together with a practical understanding of the critical evaluation of research, scholarship and methodologies within Machine Learning
PLO15	Demonstrate the application of statistical and data visualisation techniques to familiar and unfamiliar problems in Machine Learning (ML)
PLO16	Demonstrate the application of big data computing technologies and techniques
PLO17	Critically evaluate information from a variety of sources, and draw and defend conclusions
PLO18	Apply planning, research methodology and analytical skills to an in-depth study of a chosen research area
PLO19	Analyse and solve set problems, choosing the appropriate techniques and technologies for problem solving

Programme Structure

Programme Structure Description

This Machine Learning programme exists as an MSc progression award for students progressing from the IIIT-B UpGrad Diploma in Machine Learning and Artificial Intelligence (equivalent to 110 Credits) and Advanced Certification in Machine Learning and Cloud - IIT Madras (equivalent to 110 Credits). To obtain an MSc, students must acquire 180 level 7 credits. Students starting prior to September 22 will follow the previous programme rules

Programme Structure - 110 credit points	
Level 7 - 110 credit points	
Level 7 Core - 70 credit points	CORE
[MODULE] 7610UPGRAD Project Dissertation Approved 2022.01 - 60 credit points	
[MODULE] 7636UPGRAD Research Methods Approved 2022.01 - 10 credit points	

Module specifications may be accessed at https://proformas.ljmu.ac.uk/Default.aspx

Teaching, Learning and Assessment

The methods used to enable outcomes to be achieved and demonstrated are as follows: Acquisition of 1 - 10 is through a combination of lectures, tutorials and practical sessions. Throughout the learner is encouraged to undertake independent reading both to supplement and consolidate what is being taught / learnt and to broaden their individual knowledge and understanding of the subject. Knowledge and understanding (Skills 1-6 and 14-19) is assessed via formal examination, individual and team coursework, demonstration of practical work, and a full-scale individual MSc Dissertation. Skills 1 - 7 are taught through lectures and developed through tutorial work throughout the programme. Cognitive skills (Skills 1-2 and 11-16) are partly assessed via formal examinations, but mainly through coursework assessment. The MSc Dissertation allows a student to demonstrate his/her cognitive skills. Practical advanced skills (Skills 10-17) are developed throughout the programme. Key skills are developed throughout the programme in a variety of forms. Specifically through a combination of research related coursework, guided independent study and projects, examinations, group work and presentations. Key skills are assessed as part of coursework, projects, written examinations and presentations.

Opportunities for work related learning

There are no external placements during the programme. However business skills of project development, management, implementation and presentation are embedded throughout the course. Each student will be allocated to a supervisor who will act as the line-managers for the project. The supervisor will have complementary skill sets in the problem domain and the machine learning domain. Weekly 1 hour meetings of the supervisor and student will monitor progress and provide opportunities for developmental feedback. The aim is to run the projects (7610UPGRAD) in the same fashion as either an academic or industrial project is done externally. As part of the research methods and project modules, the students will be encouraged and assisted to develop a professional on-line presence.

Entry Requirements

Type	Description

Alternative qualifications considered	Diploma in Machine Learning and Artificial Intelligence as awarded by the IIIT-B UpGrad (equivalent to 110 Credits). Advanced Certification in Machine Learning and Cloud - IIT Madras (equivalent to 110 Credits).

Extra Entry Requirements