

Summary Information

Module Code	7147COMP
Formal Module Title	Enterprise Machine Learning
Owning School	Computer Science and Mathematics
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Carl Chalmers	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
Paul Fergus	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	11
Practical	11
Tutorial	11

Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To develop knowledge of enterprise machine learning at master's degree level and provide guidance on the design decisions required for large scale deployment. To provide an understanding of enterprise tools and how they can be used to deploy machine learning projects. To provide help on establishing deployment strategies for large scale machine learning projects.
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Critically analyse enterprise ready tools for large scale machine learning projects and implementation.
MLO2	Critically evaluate the benefits provided by Commercial and Open Source enterprise tools (including those provided by Cloud) for machine learning deployment.
MLO3	Design an enterprise-ready machine learning deployment strategy for a large scale machine learning project.
MLO4	Develop an enterprise-ready machine learning solution for a large scale machine learning project.
MLO5	Demonstrate an advanced understanding of the end-to-end ML pipeline.

Module Content

Outline Syllabus
1. Introduction to Machine Learning (ML) Production 2. Deployment Frameworks and Technologies 3. Hardware Consideration and Planning 4. Model Deployment 5. Hosting Architectures 4. Web Deployment with Flask 5. Application Deployment 6. Component Oriented Computing 7. Docker and Containerisation 8. Virtualisation 9. Performance Testing and Tuning 10. Resilient Services 11. ML Algorithms as a Service; Future Directions and Advancements

Module Overview

This module provides a best-practice set of enterprise tools for deploying large-scale machine learning projects. This will help to equip you with enterprise ready skills needed to deploy large-scale machine learning projects in industry.

Additional Information

This module provides a best-practice set of enterprise tools for deploying large-scale machine learning projects. This will help to equip the student with enterprise ready skills need to deploy large-scale machine learning projects in industry.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Report	40	0	MLO3, MLO2, MLO1
Technology	Prototype	60	0	MLO4, MLO5