University of Roehampton London

Machine Learning

Dr Changjiang He, Dr Kuo-Ming Chao
Computer Science| School of Art
University of Roehampton

University of Roehampton London

Lesson 1.1

Module Information

Module Tutor

Dr Changjiang He, Dr Kuo-Ming Chao

Email: Changjiang.He@Roehampton.ac.uk &
kuo-ming.chao@roehampton.ac.uk

Office Hour: Please email to book an appointment

Module Information

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Week 1	Introduction
Week 2	Regression
Week 3	Classification
Week 4	Model Evaluation
Week 5	Neural Networks
Week 6	Advanced Neural Networks
Week 7	Clustering
Week 8	Model Automation
Week 9	Reinforcement Learning
Week 10	Deep Learning
Week 11	Data Bias
Week 12	AI Ethics

How to Learn

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Online learning:

- video recordings
- lesson slides, tutorials
- reading list (e.g., book chapters)

Face-to-face sessions:

- seminar session
- lab session

Assessment

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You will have 3 assessments:

- 2 coursework
- 1 final essay

Assessment	Weight	Submission Method
Coursework 1	25%	via Moodle
Coursework 2	50%	via Moodle
Final essay	25%	via Moodle

Reading List

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- **Russell, S. and Norvig, P., Artificial Intelligence: A Modern Approach. Pearson (2016)**

- Ertel, W. and Black, N.T., Introduction to Artificial Intelligence (Undergraduate Topics in Computer Science). Springer (2018)

- University resource link: https://rl.talis.com/3/roehampton/lists/351EDB65-3CCA-0A6B-0F0B-5CFC62D0CCAB.html

Outcomes

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Apply the simple statistical learning algorithm such as Logistic Regression to a classification task and measure the classifier's accuracy.
Evaluate the performance of a simple learning system on a real-world dataset.
Compare and contrast each of the following techniques, providing examples of when each strategy is superior - decision trees, neural networks, and belief networks.
Evaluate the ethical concerns of applying machine learning techniques to a real-world dataset.