Module Details

Module Title	Big Data Visualisation (PG)
Module Code	COS7046-B
Academic Year	2021/2
Credits	20
School	Department of Computer Science
FHEQ Level	FHEQ Level 7

Contact Hours

Type	Hours
Lectures	24
Tutorials	3
Laboratories	24
Directed Study	149

Availability

Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims

The aim of this module is to highlight real-life issues surrounding Big Data and the importance of meaningful visualisation to help the understanding and interpretation of Big data at a glance, by showing (visualising) trends and patterns that arise from the data.

Outline Syllabus

(1) Visualization techniques and user requirements;
(2) Analysis techniques to critique examples of visualizations;
(3) Interpretation of multidimensional, big and complex data formats;
(4) Application of data visualisation to real-life problems;
(5) Knowledge extraction from big data using data visualizations.

Learning Outcomes

Outcome Number	Description
01	Demonstrate an advanced understanding of modern data visualisation methods and systems.
02	Demonstrate a practical and advanced ability in the implementation of data visualisation techniques in practical situations.
03	Deploy enhanced technical analysis and problem solving skills, advanced written and presentation skills.
04	a) Design and implement suitable architectures for organising and visualising big data. b) Discuss contemporary issues in big data project management including intellectual property, legal and ethical aspects. c) Apply skills and techniques for problem solving in big data visualisation

Learning, Teaching and Assessment Strategy

The delivery of the module will consist of online lectures and online lab classes supplemented by students own lab work and directed study. Lectures will be recorded and made available to students afterwards.

Formal lectures will outline the theoretical principles of data visualisation.
The coursework will involve students in the practical visualisation of real-life data sets.

This module satisfies the Learning Outcomes as specified by the Accreditation of Higher Education Programmes: Third Edition (AHEP3) as published by The Engineering Council in-line with the UK Standard for Professional Engineering Competence (UK-SPEC). These outcomes specify five key areas of learning: Science and Mathematics (SM), Engineering Analysis (EA), Design (D), Economic, Legal, Social, Ethical and Environmental Context (EL), and Engineering Practice(EP):
LO1: SM3fl
LO2: EA3fl
LO3: D3fl
LO4: ET2fl; ET3fl; and ET5fl

Supplementary assessment is as original.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Coursework	Exercises on the development of visualisation solution to a real-life problem (LO1)	50%
Summative	Coursework	Exercises on the development and creation of big data visualisation system. (LO2-4)	50%

Reading List

To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html