ESKITP803401

Deliver Data Driven Business Insights Using a Range of Data Sources

Overview

This sub-discipline Data Science (803) is concerned with the competencies required to design and implement data studies to drive organisational decisions and insights. This involves undertaking tasks to develop, implement and evaluate algorithms, predictive data modelling and data visualisation to identify underlying trends and patterns in data using statistical and computational techniques and tools.

Working in the professional role (8034) is primarily focussed on delivering data driven business insights using a range of data sources to aid organisational decision making.

Performance criteria

You must be able to:

1. design and implement a data study in a systematic way to support or drive organisational decisions and insights
2. apply predictive data modelling techniques to identify underlying trends and patterns in data using appropriate statistical computing tools, methods and procedures
3. identify useful insights from multiple data sources in line with organisational procedures
4. develop prototype algorithms and proof of concept demonstrations of these solutions in line with organisational procedures
5. make appropriate decisions about which patterns are meaningful, and which to further analyse
6. assemble appropriate data aggregations to build a data model to help test problem hypotheses
7. use machine learning techniques to gain new insights from data in line with organisational procedures
8. mine large & growing volumes of data to find relevant insights to develop ongoing improvements
9. manage the creation of interactive visualisations of data and data study outcomes to meet the requirements of internal and external designers and agencies
10. use industry standard tools and techniques for data visualisation in line with organisational procedures

Knowledge and understanding

You need to know and understand:

1. the organisational domain(s) and key business processes
2. how to use analytics to tell the story of the data
3. how to use exploratory visual analysis and predictive modelling
4. how to identify and prioritise the problems to be solved or given greater insights to
5. how to develop prototype algorithms
6. how to build a data model
7. how to use Random Forests, Bayesian networks, Neural networks, Heuristics, Support vector machines and Logistic Regression
8. how to use data mining to discover new business insights
9. how to interpret patterns in data and their relevance to business issues
10. the range of established and novel tools an techniques used in developing new business insights
11. how to apply complex software tools to analysing massive amounts of data,
12. the use of statistical techniques, experimental techniques, and hypothesis testing

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