F20AA Applied Text Analytics

COURSE DETAILS
Course Code: F20AA
Full Course Title: Applied Text Analytics
SCQF Level: 10
SCAF Credits: 15
Available as Elective: Yes

DELIVERY LEVEL
Undergraduate: Yes  Postgraduate Taught: No  Postgraduate Research: No
Additional Information:

COURSE AIMS
This course aims to provide the students with knowledge and skills in applied text analytics focusing on Machine Learning and Natural Language Processing tools.

In particular the course:

- Presents the area of text analytics and provides fundamental tools to extract, represent and analyse information from text sources using machine learning models

- Provides a fundamental understanding of concepts and tools to build effective language aware systems and applications

- Presents basic understanding of deep learning models for Natural Language Processing applications and related research

- Discusses current research advances, business cases and future direction of the field

LEARNING OUTCOMES – SUBJECT MASTERY

- Demonstrate understanding of the text analytics process and relevant applications

- Work with text analytic tools to uncover information from text

- Understand challenges related to implementation and scalability

- Understand Deep learning approach to NLP problems and some available tools for implementation
Demonstrate understanding of some recent advances in the field of NLP & text analytics.

LEARNING OUTCOMES – PERSONAL ABILITIES

- Problem analysis and critical review
- Report writing and presentation skills
- Working in groups
- Use a range of software for ML, text analytics and NLP

SYLLABUS

Following topics will be covered with varying levels of depth:

- Overview on ML models, techniques and use cases & ML project design.
- Language model & text processing principles
- Text classification & visualization
- Text Clustering & topic modeling
- Context-aware text analysis & n-gram model
- Chatbots
- Scaling text analytics
- A deep learning approach to NLP:
F20AA Applied Text Analytics

- Sequence models (ex: RNN, BRNN, LSTM) & transfer learning
- Applications in Named Entity Recognition, learning word-embeddings, machine translation, sentiment classification
- Research Directions and Business Cases

COURSE RELATIONSHIPS
N/A

LOCATION AND ASSESSMENT METHODS

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