F21AA Applied Text Analytics

COURSE DETAILS
Course Code: F21AA
Full Course Title: Applied Text Analytics
SCQF Level: 11
SCAF Credits: 15
Available as Elective: Yes

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

COURSE AIMS
The 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

- Detailed understanding of the text analytics process and relevant applications and business values
- Ability to apply text analytic tools to work with unstructured text to reveal insights and uncover valuable information
- Understand challenges related to implementation and scalability
- Understand Deep learning approach to NLP problems and available tools for implementation

- Awareness of recent advances in the field of NLP & text analytics, relevant application and future directions in AI

LEARNING OUTCOMES – PERSONAL ABILITIES
F21AA Applied Text Analytics

- Problem formulation, critical analysis and developing solution for practical problems
- Research skills, report writing and presentation skills
- Working in groups

SYLLABUS

- The 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:
    - 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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