PhD Project
Natural Language Processing for Business Intelligence
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This is an interdisciplinary project between computing and business management, and is aimed to apply the modern machine learning and natural language processing (NLP) technologies to support decision making for both business operations and strategic planning.

Project Description

Business operations involve a large amount of data from their internal communications, presentations, reports, accounting and marketing, and external information from governments, industry sectors, customers, suppliers, competitors etc. These data are often available in unstructured or semi-structured formats, and therefore make the data analytics a challenging task.

In this project, we shall develop novel methods using the machine learning and NLP technologies to support decision making for both business operations and strategic planning. You will focus one or more of the following tasks in the project:

- sentiment analysis
- chatbots for customer service or business data analytics
- tagging and text classification
- text extraction and document summarisation
- personalised marketing
- customer profiling
- market intelligence

Environment and Support

The Department of Computer Science enjoys a strong international standing for its research in both data science and artificial intelligence, as evidenced by numerous research performance metrics, e.g., 3rd in UK overall and 85th in the world (the NTU Performance Ranking of Scientific Papers, Subject: Computer Science, 2022). Data Science and artificial Intelligence has been a strategic focus of the Department for both research and teaching. The proposed research sits right in the centre of the above focus area, and covers promising topics of intelligent data analysis, cloud computing, expert systems and natural language processing.

Eligibility

Applicants will be required to demonstrate that they have the following qualification, knowledge and skills:

- An Undergraduate First Class or Upper-Second Honours degree in computing, engineering, or other STEM subjects.
- A Postgraduate degree is not required but may be an advantage.
- Strong programming skills, ideally in Python, but other languages also acceptable.
- Good knowledge in expert systems, natural language processing and artificial intelligence.
- Highly motivated to learn.
- Able to work independently as well as collaborating with others in a team.