NLP Algorithms
What is NLP?
Course Overview

Course Information
- Website: www.cs.um.edu.mt/~mros
- Book:

What is NLP?
- Development of computational models of human language processing, e.g.
- Why NLP?
  - Better performance models
  - Better user interfaces
  - Better understanding of language behaviour

NLP is Interdisciplinary
- Linguistics:
  - Knowledge of language
  - Formal Grammar
- Computer Science:
  - Complex Algorithms
  - Compiler Technology
- Artificial Intelligence:
  - Intending, meaning, reasoning, understanding
  - Intelligent action and planning

Examples of NLP Applications
- Information Retrieval
- Information Extraction
- Question Answering
- Machine Translation
- Document Classification
- Task Oriented Dialogue Management
- Integrated Multimodal Tasks

Successful NLP Requires
- Choosing a appropriate application
- Putting limits on the need for outside knowledge and experience
- Access to the right kind of data
- Use of appropriate algorithms for handling a given subtask.
- Explicit criteria of success
Natural Language Algorithms

- **Words**
  - Morphological Processing
  - Algorithms related to finite state machinery
  - Stemming algorithms

- **Sentences**
  - Parsing
  - Generation

- **Texts**
  - Boundary discovery
  - Indexing
  - Tagging