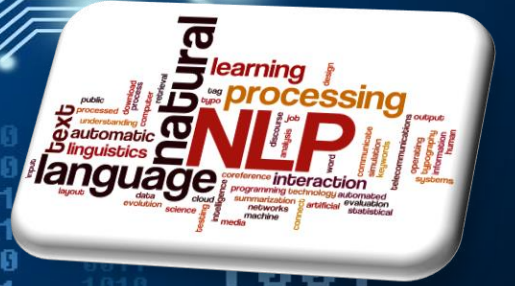
Cairo University
Faculty of Engineering
Computer Engineering Department

Natural Language Processing

Dr. Sandra Wahid



Instructor

- Dr. Sandra Wahid Amin Rizkallah
  - Email: sandrawahid@hotmail.com

Course Contents

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- Basic Text Processing
  - E.g.: Regular Expressions
- Language Models
  - E.g.: N-gram Language Models , RNN -> recurrent neural networks
- Text Classification
  - E.g.: Sentiment Analysis
- Vector Semantics and Embeddings
  - E.g.: Word2vec
- Sequence Labeling
  - E.g.: Part-of-Speech Tagging
- Information Extraction Syntactic Parsing
- Machine Translation
- Question Answering

Learning Outcomes (LOs)

- Apply basic text processing techniques such as writing regular expressions.
- Analyze and compare language models.
- Write text classification codes such as sentiment analysis code.
- Describe and analyze word embeddings techniques.
- Develop core NLP tasks such as part-of-speech tagging and named entity recognition.
- Apply machine translation algorithms and question answering techniques to given problems.

Grades' Distribution

- Final Exam: **60** grades
- Midterm Exam: **5** grades
- Project: **15** grades
- Labs/Assignments: **15** grades
- Quizzes: **5** grades 2 quizzes
- Lecture's Bonus: up to **3** grades

Written Exams Policy

- Restricted exams:
  - you are allowed to bring only **1 A4** sheet **(2 sides)**

  → **Hardcopy (softcopies are not allowed).**

References

- Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics, and Speech Recognition. Dan Jurafsky and James H. Martin

- Natural Language Processing with Python. Steven Bird, Ewan Klein, and Edward Loper.

Important Dates

- Week 4: Lecture Quiz
- Week 8: Midterm Exam
- Week 10: Tutorial Quiz
- Week 13: Project Delivery


Thank You