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Cairo University
Faculty of Engineering
Computer Engineering Department

Dr. Sandra Wahid

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Instructor



Course Contents

- 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

