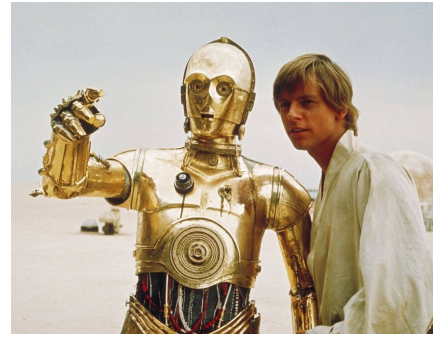


EECS 498-004: Introduction to Natural Language Processing with Deep Learning – Winter 2021

Instructor: Prof. Lu Wang

Course Description

This course aims to introduce fundamental tasks in natural language processing, and its recent advances based on machine learning algorithms (e.g., neural networks) and applications for interdisciplinary subjects (e.g., computational social science). The course materials are mostly delivered as lectures, and accompanied with reading materials.



Prerequisites

This course is designed for graduate students and senior undergraduate students majoring computer science, computational linguistics, and other related areas. Concretely,

- **Programming:** Students are expected to be proficient in some programming languages (Python is encouraged).
- **Natural language processing/Machine learning:** Students have familiarity with natural language processing concepts and machine learning fundamentals, e.g., have done projects with machine learning tools to train and evaluate computational and statistical models.

Textbooks (optional):

- Jacob Eisenstein. Introduction to Natural Language Processing. MIT Press, 2019.
- Dan Jurafsky and James Martin. Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics and Speech Recognition. Prentice Hall, Second Edition, 2009.

Related Courses

- EECS 595 (Natural Language Processing): introduces linguistic fundamentals of natural language processing.
- EECS 597 (Language and Information): introduces a body of quantitative techniques for modeling and analyzing natural language and for extracting useful information from texts.
- EECS 445 (Introduction to Machine Learning): theory and implementation of state-of-the-art machine learning algorithms for large-scale real-world applications.
- EECS 545 (Machine Learning): Survey of recent research on learning in artificial intelligence systems.