NLP For Economists

Course Overview

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About me

- ▶ I work as a full time researcher at the National Research Council, Canada in Digital Technologies Research Center.
- ▶ 2020: Wrote a book for O'Reilly (http://www.practicalnlp.ai/)
- ▶ 2018-19: Senior Data Scientist in software engineering r&d teams in Toronto
- ▶ 2016-18: Assistant Professor (tenure track) at Iowa State University, USA
- ▶ 2011-15: PhD at University of Tuebingen, Germany

Teaching experience

- 2011-13: 2 Hauptseminar courses at Tuebingen for Masters+ students
- 2016-18:
  - Applied Linguistics graduate students: Python programming, Introduction to NLP
  - Grad Computer science students: Statistical NLP
  - Undergrad students from all disciplines : "Language and Computers", "Text as Data" (R)

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4. From measuring news sentiment and connecting it to the nation's economy to extracting key information from policy documents, there are many uses of NLP in economics research.

Course Objectives

▶ Introduce you to some common NLP methods
▶ Introduce some basic Python programming to use the above methods
▶ Explore the various use cases for NLP in Economics research of the past (and future)

Expected Learning Outcomes

- ▶ Given a problem description in economics research involving textual data, understand what methods from NLP can be used to solve the problem, and design a step by step process to solve it
- ▶ Write small Python programs
- ▶ Be able to read some code and understand what is happening

What will you not become?

1. Expert Python programmer
2. NLP Expert

Pre-requisities

1. familiarity with using computers
2. preferably some familiarity with Python, installing and using software on your computers

Course Logistics

Meeting and Location

- online meetings!
- Dates: 16th, 19th, 21st, 23rd, 26th, 28th, 30th October; 4 pm CET (10 am EST).
- Location: Google Meet/Hangouts. Link will be sent in an email.
- Let us plan for 1 hour meetings, but I will be available for another hour or so after the planned time (with a 10 min break in between) if anyone wants more time.
- We can have one or two additional meetings as needed.

Course Website

- https://econnlpcourse.github.io/
- Syllabus and Reading list is available there.
- Lecture slides and Assignments will be uploaded there.

Course Format

- ▶ The course is divided into 4 broad topics: Intro and Python programming, Python and textual data, NLP and Machine learning methods, NLP and Economics.
- ▶ The first 3 topics have a bunch of videos each, followed by live online discussions.
- ▶ Each topic will have a short assignment.
- ▶ 4th topic is group work. You are expected to form into groups of 3, pick a paper from the reading list on the website (or any other relevant paper) and present a brief discussion in a live session (10-15 minutes per group)
- ▶ There is a term paper at the end. You can submit it in writing - details will be communicated later.

Credits

Pass or Fail (pass is completing all assigned exercises as much as possible).

Meetings Plan (Tentative)

Topic	Date	Time
Intro + Python fundamentals	16/10	4-5 pm CET
Python and Text	19/10	4-5 pm CET
NLP and ML Methods	21/10 and 23/10	4-5 pm CET
NLP and Economics - Discussions	26/10 and 28/10	4-5 pm CET
Revision	30 Oct	4-5 pm CET

Note 1: Meeting link (google meet) will be sent by email. They can be extended if someone wants to stay longer.
Note 2: I am aiming to upload all lecture videos and code examples before our first meeting (i.e., 16/10)

ToDo before next meeting

- ▶ Install Python and PyCharm
- ▶ Start checking out the Python for everybody book
- ▶ Read "Text as Data" paper listed in the syllabus under the topic Intro.

todo for me: prepare the lectures and exercises!!