LING 120: Language and Computers

Semester: FALL 2017

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Iowa State University, USA

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Class outline

- Introductions
- Course objectives
- Course logistics
- Syllabus, Assignments and Deadlines.
- Course policies
- Canvas
- Pre-course questionnaire

Introductions

About me

1. In ISU as Asst. Professor since January 2016.
2. Prior to that, PhD student in Computational linguistics, in Germany.
3. Other education: Masters in Computer Science and Engineering, Bachelors in Electronics and Communication Engineering.
4. Other details: 3 years as a software developer in India.
5. Other courses I teach: Intro to Python, NLP, Data Science courses; Statistical NLP; Technical Communication

About you?

1. Name
2. Discipline and Year
3. What is your idea about this course?

What is this course about?

Some questions to think about

- How is language different from - say numbers or images or music - for a computer?
- What does a computer see where we see a coherent piece of writing that means something?
- What does it see when you listen to a recorded speech on a given topic?
- What is the intuition behind all those language processing software we see and use in daily life? (e.g., spell-grammar check, machine translation, Siri kind of tools etc)

Course Objectives

- Give an overview of various real-world challenges and applications that involve computers working with human language
- Discuss how language technology works by focusing on a few applications
- Give enough conceptual background to understand language technology and processing.

Course Logistics

Time and location

- Course meets on:
  - Monday, Fridays: 2:10-3 PM, E Hall 0111
  - Wednesday: 2:10-3pm, Ross 137
- Office Hours:
  - Monday, Wednesday: 1-2 PM, Ross 331 (My office room).

(Please send an email if you want to meet)

Text Book

You are recommended to have a copy of the following book:

1. Language and Computers, by Dickinson, Brew and Meurers.

Course Format

- Credits: 3
- Course website: on Canvas (new for me too!).
- Format: weekly meetings
  - presentations and discussions
  - pre-assigned readings for the week
  - in-class writing exercises
- grading
  - weekly graded assignments
  - Mid-term (group) and Final exam (individual)

Syllabus, Deadlines etc

Syllabus - Topics

Details on Canvas

1. Introduction
2. Encoding human language on computers (topic for Assignment 1)
3. Writers aids on computers (topic for Assignment 2)
4. Intelligent Tutoring Systems
5. Search and Information Retrieval (topics for Assignment 3)
6. Natural Language Processing - an overview of challenges, and applications (topic for Assignment 4)
7. Text Classification (topic for Assignment 5)
8. Interactive Dialogue Systems
9. Automatic Speech Recognition (topics for Assignment 6)
10. Machine Translation

Scheduling

Details on Canvas

- For class by class schedules - check Canvas.
- Important deadlines: (note: all deadlines end at 11:59 pm on that day, and are typically on Saturdays for assignments and Wednesdays for other exams)
  1. Assignment 1: 8 September 2017
  2. Assignment 2: 23 September 2017
  3. Assignment 3: 7 October 2017
  4. Mid-term: 11th October 2017 (midterms presentations on Monday and Wednesday that week)
  5. Assignment 4: 21st October 2017
  6. Assignment 5: 4th November 2017
  7. Assignment 6: 18th November 2017
  8. Final exam: 13th December 2017

Course Policies

Grading Policy

- Nature of work: 6 assignments (10*6 = 60%), mid-term (20%) and final exam (20%).
- Mid-term is a group oral presentation in the class.
- Final exam is a take home exam which involves either a report or small coding project if you have a programming background and want to make use of it.
- Topics for mid-terms and final exam will be announced later.
- All assignments are already uploaded on Canvas.
- Plus/minus grading will be used

Attendance Policy

- You require a minimum of 80% attendance to pass the course with full credits.
- If you drop below that, your grade will reduce by one grade point for each 5% reduction
  (i.e., If you got A before taking attendance into account, 75-80% attendance will give you a A-, 70-75% attendance will give you a B+, and so on)
- I don't take attendance by roll-call, but will give an exercise in the class for each class day (can be submitted online). Your completion of these counts as attendance for that day.
- Absentees can browse the course slides, finish the exercise, and still get attendance if they worry about losing the grade because of too many missing classes.

General behavior

- Come to class on time.
- Avoid doing other course work in this class.
- Avoid unnecessary browsing in the class.
- Emails: Please write professionally. Address me by name. Not "Hello" but "Hello Sowmya" or "Hello Dr Vajjala" or "Hello Professor" or whatever. I promise to address properly as well.
- Don't keep talking loudly between yourselves in the class.
- Let us respect each other and behave professionally.

Feedback to me

- This is a diverse group. I may appear to ignore one group or the other sometimes. If it happens once, forgive and forget. If it persists, please talk to me directly, or leave anonymous feedback at: `http://goo.gl/AsF6cX` or leave a paper feedback in my mailbox at Ross 206.

Other Issues

- Disability accommodation: Please speak to Disability Resources Office (DRO) to officially request an accommodation. Send me a copy of the accommodation letter, if you already have one.
- Course policies on other issues: refer to Course Policies document on Canvas

Canvas tour and syllabus document overview

Please complete the pre-course questionnaire
(your attendance for today)

Next Class ..

- Topic: Encoding text on computers- an overview
- Readings: Read up to Section 1.3 in Chapter 1 in the textbook.
- To Do: Browse the canvas course website and get back if you have questions
- To Do: Have a look at the syllabus document.
- If you have never heard of binary numbers, watch these videos (atleast the "conversion from decimal to binary" 4 min video) from Khan Academy (`https://goo.gl/o2dgdd`) before wednesday to understand the class fully.