Course Description:

NOTE: Up to date Information about the schedule and assignments can be found at cs.brandeis.edu/~cs136a

Speech recognition is a growing part of many applications in a wide variety of industries, from call centers and mobile internet applications to medical dictation. However, the technology is far from perfect when compared to human performance. This course covers speech recognition and synthesis from both applied and theoretical perspectives. Students will build a speech application using commercial tools, then work through the underlying components and algorithms to understand how the state of the art can be moved forward. Topics include phonetics, Hidden Markov Models, finite state grammars, statistical language models, conversational systems, speech synthesis and industry standards for implementing applications such as VXML.

Time:
Tuesday and Friday, 9:30 - 10:50

Location:
TBD

Textbook:
Speech and Language Processing (Second Edition), by Daniel Jurafsky & James H. Martin

Professor
Marie Meteer
Email: mmeteer@cs.brandeis.edu
Office: Volen 256
Office Hours:
Tuesday and Friday 11 - 12
and by appointment

TA
TBD

Schedule

Topics and assignments for each class are posted on the schedule page (http://www.cs.brandeis.edu/~cs136a/CS136a_Schedule.html). Please check this regularly, as it may change throughout the year.

Details on the assignments are posted on the assignments page. Again, please check this regularly, I'll update it as the assignments get closer.

Grading

There will be the following types of gradable elements in class. Due dates will be posted on the schedule page and announced in class. No extensions will be considered after the due date of the assignment for any reason and extensions will only be considered for well articulated reasons. If that reason is because you didn't understand the problem or weren't able to access data, etc, then it needs to be well in advance of the actual due date. Bottom line: Start early and communicate.

Policy on working together: Unless it is specifically stated in the assignment, all assignments must be done independently. However, when working with 3rd party toolsets, you may collaborate on getting the tools installed and running. In order to make this collaboration fair for everyone, you must post questions and answers on the class Latte blog, even if it's just a summary of a hallway conversation. If it was helpful, share it.

<table>
<thead>
<tr>
<th>Type</th>
<th>Percent of grade</th>
<th>Description</th>
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<tbody>
<tr>
<td>Programming Assignments</td>
<td>60%</td>
<td>These will include actually building a speech recognition application, using speech tools to build new models to improve performance, and analyzing data and writing short reports on how something might change given different conditions. There will be 4 - 5 programming assignments over the year.</td>
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<tr>
<td>Quizzes</td>
<td>30%</td>
<td>Quizzes are in class or take home with 4-6 questions on the material covered in class. If you miss a quiz you need to make it up. They will be roughly every 2-3 weeks.</td>
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<tr>
<td>Class Participation</td>
<td>10%</td>
<td>Attendance and paying attention and answering questions, participation on class Latte discussions. Throughout the semester, I will post questions about the reading or class material. You should make at least one substantive comment per post.</td>
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