

ASR Coursework 2: Literature Review

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In the coursework you must write a literature review on ONE of the following topics, comparing and contrasting the different findings and methods in the papers you review. For each topic two key papers are provided.

1. Deep neural network acoustic models

- Morgan and Bourlard (1995), [Continuous speech recognition: An introduction to the hybrid HMM/connectionist approach](#), *IEEE Signal Processing Mag.*, **12**(3):24–42.
- Hinton et al (2012), [Deep Neural Networks for Acoustic Modeling in Speech Recognition: The Shared Views of Four Research Groups](#), *IEEE Signal Processing Mag.*, **29**(6):82–97.

2. How can human speech recognition inform automatic speech recognition?

- Hermansky (1998), [Should Recognizers Have Ears?](#), *Speech Communication*, **25**, 3–27.
- Kitaoka, Enami, and Nakagawa (2014), [Effect of acoustic and linguistic contexts on human and machine speech recognition](#), *Computer Speech and Language*, **28**, 769–787.

(The title text for each paper is a clickable link to that paper, also the links are on the course webpage. Note that the links may only work when you are on the university network.)

Use the two papers cited for the topic as the main sources. It is, of course, fine to refer to other papers in your review, but the aim is not to do a broad review involving a comprehensive literature search. Make sure you cite all papers you refer to, including them in the bibliography.

Features of a good literature review:

- Not much direct quotation from the papers — better to summarise the ideas and findings in your own words, while making sure that you cite the original sufficiently to make it clear who the ideas belong to.
- Clear writing, minimal jargon, all acronyms defined.
- Organised by sub-topic rather than by paper.
- Presents a hypothesis / makes an argument based on the reviewed material, rather than simply reproducing the main points.

There is no length constraint, but something in the region of 1,500-2,000 words would be fine. Fewer than 1,000 words would be rather short, over 2,500 words would be longer than necessary.

Coursework submission

Submit your coursework by **Wednesday 19 March 2014, 16:00**, in the following way:

1. Download a report template package from the course web page. There are two versions available, one for LaTeX, the other for Microsoft Word (Open Office). You can use either one.
2. As you will find in the package, your report submission should consist of the following two documents:
 - (a) coversheet
 - (b) report

For the purpose of anonymous assessment of reports, do not write your name or matriculation number on your report, but write your pseudonym on the first page of the report. A pseudonym can be any word(s) or letter/digit sequence but your own name. On your coversheet, indicate your name, matriculation name, and pseudonym.

3. Submit your report and coversheet files with the `submit` command in the DICE computing environment. The following shows an example of submitting two files, `report.pdf` and `coversheet.pdf`.

```
% submit asr 2 report.pdf coversheet.pdf
```

4. You should receive an email of acknowledgement from the system as soon as your submission has been received successfully. Keep the message as an evidence of your coursework submission.

Note that your coursework should be done solely by yourself, meaning you cannot use reports, documents, or files of someone else. However, you may have discussions with your colleagues. For plagiarism, please see:

<http://www.inf.ed.ac.uk/teaching/plagiarism.html>

Marking scheme

- Summary of main ideas and findings / 30%
- Critical review / 30%
- Compare and contrast papers / 20%
- Overall presentation and style / 20%