Assignment 3

Emotion Analysis 20/21

Publication: 2021-01-12
Submission Deadline: 2021-01-24
Live Discussion Session: 2021-01-26

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- **Groups:** Working in groups of up to three people is encouraged, up to four people is allowed. More people are not allowed. Copying results from one group to another (or from elsewhere) is not allowed. Changing groups during the term is allowed.
- **Grading:** The grade for this class is a combination of the assignment submissions and an oral exam at the end of the term. For this assignment, we will mainly base the grade on your submissions, but consider the discussion session in addition. One aspect that we will consider is: Did you capture the **main aspects of the work**? Did you **critically reflect** with good and **convincing arguments**? Note that this time, we will assign individual grades, not per group.
- **Slides and additional document:** In this assignment, we would like to ask you to submit **two PDF files**, one which consists of **one slide per paper** that you discuss, and one, in which you write **half a page about each paper** that you discuss (see details below).
- **Submission:** Submit PDFs invidually, not as a group.
- (Numbering of assignments: In the last lecture, I think I declared this assignment to be Assignment 4, but actually it is Assignment 3. I apologize for the confusion. The assignment on stimulus detection will obviously be published after the respective lecture.)

Introduction/Motivation of this Assignment

The goal of this exercise/assignment is to collaboratively (all students together) built up a list of papers that help us get an understanding what other research exists in the area of emotion analysis; next to what we discussed.

The goals of this exercise are therefore of two different types:

1. **Emotion Analysis:** Get an overview of related topics to emotion analysis from text, possible other interesting research areas, and possible future literature to read.

2. **Literature Survey:** Practice to do literature review and summarize the findings for others.

You will therefore decide on a broad topic that you find interesting, do literature review in this area, and pick as many papers as you have group members to briefly summarize. You will prepare one slide for each paper and write roughly half a page about each paper. The slides will be presented in a live meeting while the one-pagers can be used by everybody to read a bit more about the paper.

Step 1: Decide on a topic

Decide in your group an area you would like to do literature review on (remember that you can also restructure your group). The idea that you pick a topic as a group is that you can discuss different papers with each other, therefore, you should work together on an area that is not too broad.

I suggest that you pick one of the following topics (if you want a different one, please contact me with your proposal):

1. Emotion detection in **faces**

2. Emotion recognition in **body gestures**

3. Emotion analysis in **images** (other than facial expressions or body gestures)

4. Emotion analysis with **physiological sensors**

5. Emotion analysis in **spoken language**

6. Emotion analysis for **robotics**

7. **Conditioned language generation**, conditioned by emotions

8. Relation of emotion analysis to other similar concepts, including the analysis of **empathy, sentiment, perception, personality traits**

9. Applications of emotion analysis (and affective computing, including chat bots, medical applications, intelligent agents, social media analytics, . . .)

Step 2: Retrieve literature

For the topic you picked, please collect papers that are potentially interesting, try to find at least 10 to 20 papers on the topic (for some topics that is easy, for others it is more difficult, therefore I cannot give an exact number, but try to find as much as you can). For this selection, prioritize papers that seem to be influential (highly cited) over those which are published for years already without having influenced too many other researchers.

I propose you start with influential early papers on the topic you picked and then check other papers that cite these early papers. Academic search engines and repositories that you might want to consider are the following:

- Google Scholar, Microsoft Academic, Semantic Scholar
    - General purpose
    - `https://scholar.google.com`
    - `https://academic.microsoft.com/`
    - `https://www.semanticscholar.org/`

- ACL Anthology
    - That is the main repository of papers from the computational linguistics world.
    - `https://www.aclweb.org/anthology/`

- Computer Vision Foundation
    - A set of conferences which focuses on analysing visual information.
    - `https://openaccess.thecvf.com/menu`

- IEEE Conference Proceedings and IEEE Xplore, ACM Digital Library
    - Repository of papers from conferences and journals, have a focus on engineering and computing, including robotics and vision.
    - `https://www.computer.org/csdl/proceedings`
    - `https://ieeexplore.ieee.org/Xplore/home.jsp`
    - `https://dl.acm.org/`

- PubMed, Livivo
    - Search engines for articles in the life sciences.
    - `https://pubmed.ncbi.nlm.nih.gov/`
    - `https://www.livivo.de/`

The general search engines might also include other more specialized repositories, but sometimes you cannot find the interesting papers in there. Therefore it makes sense to also look at smaller or more specialized repositories and websites. Note that you might have access to more papers from the internal network of the University (which you can use at home via VPN or SSH tunnel).

Please collect a set of papers that you find relevant and interesting. I propose that you keep track in a spreadsheet application, in which you store the paper title and the authors, and a link to the publication, and how you found the paper (search terms and the search engine). Also note a set of keywords why you find this paper interesting.

Of course, you cannot read each of these papers in detail. That's fine.

Step 3: Select one paper for each group member

From the set of papers that you found interesting, please now pick **one for each group member**[1]. This paper should appear to be sound, trustworthy, and interesting. Ideally, it contributes interesting ideas or research hypotheses, analyzes them carefully and reports the results clearly.

Now each group member should, based on this paper, prepare the following:

- One slide

- One page summarizing the paper

Please use the LaTeX templates available at `https://www.emotionanalysis.de/assignments/review-templates.zip` for this. Don't change the layout, please. These templates provide you with the expected content and structure.

Step 4: Get internal feedback and submit your result

After you wrote the summary and prepared the slide, please ask your team mates to provide you with feedback, if your submission is understandable. Include their feedback, and then submit individually, not as a group, one slide pdf and one paper pdf for the paper that you summarized. Please do that via Ilias.

As an explanation: we encourage you to do the paper collection and analysis process together in your group, but we would like you to submit the paper summary alone.

Step 5: Let's discuss

On January 26, we will meet live and discuss your summaries. We will likely form small breakout groups or schedule short consecutive sessions, clustered by topic, in which you present the papers you found interesting very briefly (and informally) to the other students in the same session/topic cluster. You will have the chance to inform each other and discuss.[2]

Step 6: Revise Material (optional) for online publication

If you would like to revise the submission based on the discussion we had, please send a revised version by mail, but that is absolutely optional. I would like to make the material that you created available to everybody via Ilias or/and publicly. If you prefer that your submission is not made available or only made available anonymously, please inform me about that by mail[3].

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[1]Of course it could happen that another group picks the same topic and the same paper, however, I assume that chance that this happens is low, and it is probably an exception, so we don't take organizational measures to avoid that, as this would complicate things.

[2]I will decide on the exact setup based on variance of topics and amount of submissions.

[3]Feel free to inform me only after I graded your submissions, if you prefer.