**RE week 3 – Assignments**

**R. 3**

*As Dutch philosopher Johan Cruyff used to say: you will only see it, if you understand it. Find out how people deal with information that has no meaning to them. Do a study, where you identify important academic sources.*

*Sources:* [*https://www.washingtonpost.com/news/wonk/wp/2016/03/03/the-incredible-power-of-ignoring-everything/*](https://www.washingtonpost.com/news/wonk/wp/2016/03/03/the-incredible-power-of-ignoring-everything/)*,* Ana Swanson, March 3, 2016

[*https://www.psychologytoday.com/us/blog/science-choice/201510/why-do-we-remember-certain-things-forget-others*](https://www.psychologytoday.com/us/blog/science-choice/201510/why-do-we-remember-certain-things-forget-others)*,* Shahram Heshmat, October 08, 2015

[*https://www.theverge.com/2017/6/21/15845378/neuroscience-memory-remembering-forgetting-artificial-intelligence*](https://www.theverge.com/2017/6/21/15845378/neuroscience-memory-remembering-forgetting-artificial-intelligence)*,* Angela Chen, June 21, 2017

[*https://www.verywellmind.com/forgetting-about-psychology-2795034*](https://www.verywellmind.com/forgetting-about-psychology-2795034), Kendra Cherry, February 07, 2020

In order to find out how people deal with information that has no meaning to them, I want to point out some points on how people do take in information and memorize it.

First of all, attention is key. Attention guides our focus to select what’s most relevant for our lives and is normally associated with novelty Emotional intensity acts to narrow the scope of attention so that a few objects are emphasized at the expense of many others. Focusing upon a very narrow area allows for an optimal use of our limited attentional capacity.

Secondly is the consolidation of memory. Most of the information we take in goes to the short term memory but never to the long term memory, eventually forgetting it. When a complex problem is being learned, space is cleared in the short term memory. Emotionally charged events will go in to the long term memory more easily. That’s why you don’t forget emotionally events that fast. Think about the birth of your first baby. It is logical that dangerous things get printed in to the long term memory so that we may avoid them in the future.

So without paying attention and non emotionally charged events, people tend to ignore what is around them. But is this a bad thing? Memory isn’t supposed to work like a video recorder, it is more like a useful list of rules that help us make better decisions. Why does the brain overwrite existing neurons with generating new ones. First of all, forgetting information makes us more efficient. Removing old wrong information helps us learning the right new things.

Also there is something called The Inference Theory. This theory states that it is easy to recall what you exactly did yesterday. But after a couple of days that look all the same as the day of yesterday, you won’t remember exactly anymore. For example, you probably remember what you ate yesterday as diner. But try to remember exactly what you ate a week ago. You merge things together in to something big if it is reoccurring. The same goes for the working days you had the last 3 months. You won’t remember what you did every single day, but you know it more or less in general.

**R. 4**

*Research how people can have memories about things that never happened, yet sincerely believe to be true.*

*Source:* [*https://www.ted.com/talks/elizabeth\_loftus\_how\_reliable\_is\_your\_memory#t-479469*](https://www.ted.com/talks/elizabeth_loftus_how_reliable_is_your_memory#t-479469)*,* Elizabeth Loftus, 2013

[*http://www.scholarpedia.org/article/False\_memory*](http://www.scholarpedia.org/article/False_memory), Henry L. Roediger III, Elizabeth J. Marsh

People can have memories about things that never happened because they can get manipulated by the false information other people tell them. Your memory can get distort, contaminate or even change because of it. Misinformation is everywhere in the real world. Memory also gets reconstructed ones we try and remember some things. After several reconstructions the new memory might be completely different from the original event, resulting to a memory which actually never happened.

A false memory might also happen at the moment the original event is being encoded in to long term memory. This might happen if parts of the original event are not clear.

False memories can arise when subjects (incorrectly) endorse new items on a recognition test due to their similarity to original events. Imagine that witnesses to a crime see a male perpetrator in clear daylight, and give a description of the man to police. Later the police apprehend a man fitting the description and put him into a line-up with other people fitting the same general description (e.g., 6 foot white male, receding hairline, no facial hair). Witnesses pick the suspect out of the line-up (the recognition test) and he is later convicted of the crime. However, several years later, after being captured in an unrelated incident, another man who looks like the convicted man confesses to the original crime and he also possesses information about the crime that only the perpetrator could know.

**E. 1**

A)

*Read through the information you and your peer students collected last week. Review it: was it done well?*

Every team conducted lots of research with surveys, reading online articles and scientific papers and interviews. So the data was both high on the quantitively and qualitative side. The final document was well separated in each team their work. The downside was that a lot of the information was scattered around in each team’s section. This way it was hard to read or follow it in a more structured way. Furthermore layout and font wise everyone did it their one way. So in short, the information was very good while the representation of it was a little low.

B)

*What do you think are the key questions, that if you get answers to these can determine the requirements? See what your fellow students think: compare, discuss and reflect.*

* What does a student want to achieve by following this course?
* What will a student do the best in the course that it can do?
* What did the student expect from the course? How has the course differed (or not) from that expectation?
* How do people learn best? (This is of course different for each person. But looking at all preferences, a system can be created which supports all of them)
* Besides course material, interaction between students themselves and with the teacher is important. How is this going to be realized?
* Not only students will make us of the system but also teachers. What are their needs?

C)

* By doing in depth interviews with stakeholders and by reviewing the literature surrounding (physical) education, online education, social cohesion in a learning environment and learning. These findings could then be put forward to the stakeholders and tested for validity. Possibly by trying a subset of the hypotheses for a small learning problem.

D)

I think the most important question is “How do people learn best? (This is of course different for each person. But looking at all preferences, a system can be created which supports all of them)”. It is a very broad question, but it can be achieved by researching it in a quantitively way. Maybe use surveys to ask students in large amounts what their needs are. Then to take a look more in depth with higher quality, some interviews can be taken with students.

**E. 2**

*Create personas of jobs and software engineers that capture essential aspects that explain why some jobs are fit for some engineers, but not for others.*

*Organize yourself. At least one small group focusing on InfoSupport. Be sure you can make a contribution and find space for your ideas and experiments.*

*I expect each of you to:*

*- interview at least two persons, who you haven't interviewed before, at least one that you don't know.*

*- read labor market studies and or scientific studies that explain what makes a person fit for a job.*

*- the info support team should make a first assessment of their website*

*Sources:*

Caldwell, David F., and Charles A. O'Reilly III. "Measuring person-job fit with a profile-comparison process." Journal of applied psychology 75.6 (1990): 648.

(see ‘General Procedure’)

Grosemans, I., Coertjens, L., & Kyndt, E. (2017). Exploring learning and fit in the transition from higher education to the labour market: A systematic review. Educational Research Review, 21, 67-84. (see 2.3. Fit in the transition process)

A job can be fit for someone based on several things. We looked at a horizontal and vertical fit. Horizontal fit means of the job fits well will the education you did whereas the vertical fit means if the jobs fits well with the level of education you did. Furthermore, we looked at aspects like competencies and salary.

To get a better understanding of what makes a person fit for a job, I interviewed Valeriu Codreana. He works as an engineer in the field of artificial intelligence. The results the interview is shown below:

Valeriu Codreanu:

*What competencies of you were you focused on when applying for a new job for an AI engineer? How important would you wager that these are for the job chosen?*

Both soft and hard skills are important. As an AI engineer he said that we primarily worked with Python and TensorFlow and that you need a very good understanding of how artificial neural networks operate. Having a good understanding of the basics allowed him to think of higher architectural structures for neural networks and the company.

Since he worked together in a team with other developers (some AI related as well), his communication skills and collaboration skills needed to be good too. But in general, he said that the hard skills were most important to master in order to perform well in this job area.

*Are you happy at your new job? What attracted you to your new job initially (job description, benefits, company etc.)?*

He said that he was very happy at his new job. The most important thing that attracted him to it was the job description. He wanted to work on things that generally interested him. In this case those are projects based on developing artificial neural networks that support companies in the medical and chemical field. He also noted that, of course, he wants the company to have a good atmosphere, since it this will be the place you will spend a lot of time. A nice working place, desk and equipment to work with. Salary shouldn’t be at the minimum but he also didn’t need the maximum, preferably somewhere in between.

*What repelled you from your previous job?*

He had another vision of what he would actually work on, eventually not liking the work he had to do. That’s why he decided to quit and join SURFsara where he works on projects related to science and healthcare, which had much more interest for him.

*What would you advise someone in doubt of changing jobs due to the same `unfitness' of the current job?*

First figure out what your interests are and try to find a combination with it in the field of you studied in. Then look deeper in to the company. What kind of people will your work with? What projects will you work on? What kind of salary will you get? Those are all on seconds place. First figure out if this is the type of work you are sincerely interested in and what to spend your time on.

*Is the job in line with your education level?*

Yes, the educational level he did was a bachelors in technical computing and a master in artificial intelligence. So he had a good background and good knowledge in the field. He also said that he challenges he worked on were difficult but not impossible to figure out. So the fit in educational level and job difficulty was in line.

*Was your master's thesis in the same industry area as you are now working (automotive, manufacturing etc.)?*

The master’s degree was in the field of robotics in combination with artificial intelligence. The working place slightly differs from this since he does not work with robotics any longer, but much more on the AI side.

In short, the persona of an AI engineer is very broad. Many functions if each developer can be very different, where some has to apply statistics and math themselves, while for some others, others will do it for them, and they only focus on implementing the neural network. Competencies they should have in hard skills can differ in what type of programming language they should use, but mainly Python and TensorFlow/Pytorch. It was also handy to have knowledge about SLURM in order to run your model on multiple GPU’s, although this is not necessary.

Most of the time the horizontal and vertical line fit well in the job. Salary shouldn’t be at the minimum but somewhere in between the min and max.