

Semester Project – Weekly report

20/02 to 07/03

Title: Extending Dynamic Structure in Memory Network for Response Generation

Teacher: Faltings Boi

Supervisor : Mi Fei

Student: André Cibils

1. Goal of the passed weeks:

Read diverse articles about DMN and DMN+, more precisely

- Ask Me Anything- Dynamic Memory Networks for Natural Language Processing
- DMN+ Dynamic Memory Networks for Visual and Textual Question Answering

Read about BPTT, and follow this tutorial: <http://www.wildml.com/2015/10/recurrent-neural-network-tutorial-part-4-implementing-a-grulstm-rnn-with-python-and-theano/>

Start coding a DMN, based on Therne Version

2. Work done & problems encountered:

Work done without problems. I didn't implement everything asked in the tutorial. I'm having some issues about the maths behind DMN, DMN+ and GRU. More precisely, I don't understand why the vanishing gradient problem occurs in big FFN but not in RNN as when they are unfolded, they are way more bigger than traditional FFN.

I'm also wondering about the dataset and the word embedding: which one should I use?

The meeting with Mi Fei answered my questions. I'll start working with the BaBI set, GloVe, and tensorflow.

3. Potential goal for next week:

During the meetings, we fixed two milestones:

- For the 14/03, have a DMN based on Therne code & the paper AMA – DMN for NLP
- The second goal is to enhance the DMN to produce sentence rather than just one word