

Clockwork RNN

Paul Mustière - David Panou

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1 Abstract

Quickly introduce the RNN Game

2 Context

Comparison with <https://arxiv.org/pdf/1412.7753v2.pdf>

3 Clockwork RNN

4 Contribution de l'article

5 Results and analysis

6 Our benchmark

How do we plain to evaluate our implementations

A quick recap of some article.

TODO: Change thebibliography to BibTex (Much faster to use)

References

- [1] Graves, Alex, Wayne, Greg, and Danihelka, Ivo. Neural turing machines. arXiv preprint arXiv:1410.5401, 2014.
- [2] J. Weston, S. Chopra, A. Bordes. Memory Networks. arXiv preprint arXiv:1410.5401, 2014.
- [3] Siegelmann, H. T. and Sontag, E. D. (1995). On the computational power of neural nets. Journal of computer and system sciences, 50(1):132–150.
- [4] S. Das, C.L. Giles, G.Z. Sun, "Learning Context Free Grammars: Limitations of a Recurrent Neural Network with an External Stack Memory," Proc. 14th Annual Conf. of the Cog. Sci. Soc., p. 79, 1992.
- [5] J. Schmidhuber. Learning to Control Fast-Weight Memories : An Alternative To Dynamic Recurrent Networks *Neural Computation*, 4(1):131-139, 1992.

- [6] Hochreiter, Sepp; Younger, A. Steven; Conwell, Peter R. (2001). "Learning to Learn Using Gradient Descent". *ICANN 2001*, 2130: 87–94
- [7] Berant, Jonathan, Chou, Andrew, Frostig, Roy, and Liang, Percy. Semantic parsing on freebase from question-answer pairs. *In EMNLP*, pp. 1533–1544, 2013.
- [8] Berant, Jonathan, Srikumar, Vivek, Chen, Pei-Chun, Huang, Brad, Manning, Christopher D, Van- der Linden, Abby, Harding, Brittany, and Clark, Peter. Modeling biological processes for reading comprehension. *In Proc. EMNLP*, 2014.
- [9] Jurafsky, Daniel, Rebecca Bates, Noah Coccaro, Rachel Martin, Marie Meteer, Klaus Ries, Elizabeth Shriberg, Andreas Stolcke, Paul Taylor, and Carol Van Ess-Dykema. 1998. Switchboard Discourse Language Modeling Project Report Research Note 30, Center for Speech and Language Processing, Johns Hopkins University, Baltimore, MD
- [10] Gustav Larsson, Michael Maire, and Gregory Shakhnarovich. Fractalnet: Ultra-deep neural networks without residuals. arXiv preprint arXiv:1605.07648, 2016.
- [11] van den Oord, A. et al. Wavenet: A generative model for raw audio. arXiv preprint arXiv:1609.03499 (2016). 1609.03499
- [12] <http://qald.sebastianwalter.org/>
- [13] Bordes, Antoine, Weston, Jason, and Usunier, Nicolas. Open question answering with weakly supervised embedding models. ECML-PKDD, 2014b.
- [14] Fader, Anthony, Zettlemoyer, Luke, and Etzioni, Oren. Paraphrase-driven learning for open question answering. In ACL, pp. 1608–1618, 2013.
- [15] Sutskever, I. Vinyals, O., Le. Q. V. Sequence to sequence learning with neural networks. In Proc. Advances in Neural Information Processing Systems 27 3104–3112 (2014).