- Cho, K., Raiko, T., and Ilin, A. (2011). Enhanced gradient and adaptive learning rate for training restricted Boltzmann machines. In *ICML'2011*, pages 105–112. 674
- Cho, K., van Merriënboer, B., Gulcehre, C., Bougares, F., Schwenk, H., and Bengio, Y. (2014a). Learning phrase representations using RNN encoder-decoder for statistical machine translation. In *Proceedings of the Empiricial Methods in Natural Language Processing (EMNLP 2014)*. 397, 474, 475
- Cho, K., Van Merriënboer, B., Bahdanau, D., and Bengio, Y. (2014b). On the properties of neural machine translation: Encoder-decoder approaches. $ArXiv\ e\text{-}prints$, abs/1409.1259. 412
- Choromanska, A., Henaff, M., Mathieu, M., Arous, G. B., and LeCun, Y. (2014). The loss surface of multilayer networks. 285, 286
- Chorowski, J., Bahdanau, D., Cho, K., and Bengio, Y. (2014). End-to-end continuous speech recognition using attention-based recurrent NN: First results. arXiv:1412.1602. 461
- Christianson, B. (1992). Automatic Hessians by reverse accumulation. *IMA Journal of Numerical Analysis*, **12**(2), 135–150. **224**
- Chrupala, G., Kadar, A., and Alishahi, A. (2015). Learning language through pictures. arXiv 1506.03694. 412
- Chung, J., Gulcehre, C., Cho, K., and Bengio, Y. (2014). Empirical evaluation of gated recurrent neural networks on sequence modeling. NIPS'2014 Deep Learning workshop, arXiv 1412.3555. 412, 460
- Chung, J., Gülçehre, Ç., Cho, K., and Bengio, Y. (2015a). Gated feedback recurrent neural networks. In *ICML'15*. 412
- Chung, J., Kastner, K., Dinh, L., Goel, K., Courville, A., and Bengio, Y. (2015b). A recurrent latent variable model for sequential data. In NIPS'2015. 698
- Ciresan, D., Meier, U., Masci, J., and Schmidhuber, J. (2012). Multi-column deep neural network for traffic sign classification. *Neural Networks*, **32**, 333–338. **23**, 201
- Ciresan, D. C., Meier, U., Gambardella, L. M., and Schmidhuber, J. (2010). Deep big simple neural nets for handwritten digit recognition. *Neural Computation*, **22**, 1–14. 24, 27, 446
- Coates, A. and Ng, A. Y. (2011). The importance of encoding versus training with sparse coding and vector quantization. In *ICML'2011*. 27, 256, 498
- Coates, A., Lee, H., and Ng, A. Y. (2011). An analysis of single-layer networks in unsupervised feature learning. In *Proceedings of the Thirteenth International Conference on Artificial Intelligence and Statistics (AISTATS 2011)*. 363, 364, 455