COURSES AND BOOKS IN MACHINE LEARNING

FULL COURSES:

- CNNs for image recognition [Stanford] http://cs231n.github.io/
- Deep Learning for NLP [Stanford] http://cs224d.stanford.edu/
- NLP [Coursera] https://class.coursera.org/nlangp-001/lecture
- Neural Networks [Coursera] https://www.coursera.org/course/neuralnets
- Neural networks class - Université de Sherbrooke https://www.youtube.com/playlist?list=PL6Xpj9I5qXYEcOhn7TqghAJ6NAPrNmUBH
- Quantitive Finance & Machine Learning http://www.quantitativemacro.com/
- Deep learning for perception https://computing.ece.vt.edu/~f15ece6504/
- UC Berkley Deep learning: http://joanbruna.github.io/stat212b/
- Stanford CS229 http://cs229.stanford.edu/schedule.html
- Reinforcement Learning 1: http://www0.cs.ucl.ac.uk/staff/d.silver/web/Teaching.html
- Reinforcement Learning 2: https://www.youtube.com/watch?v=oPGVsoBonLM
- Reinforcement Learning 3: http://www.indiana.edu/~gasser/Q530/Notes/index.html
- Oxford Machine Learning: https://www.cs.ox.ac.uk/people/nando.defreitas/machinelearning/

TUTORIALS/BOOKS:

- Bayesian Methods and Probabilistic programming https://camdavidsonpilon.github.io/Probabilistic-Programming-and-Bayesian-Methods-for-Hackers/
- Small neural networks book http://neuralnetworksanddeeplearning.com/
- Bengio deep learning book http://www.deeplearningbook.org/
- UFLDL Tutorial http://ufldl.stanford.edu/tutorial/
- Brains, Minds and Machines Summer Course 2015 https://www.youtube.com/playlist?list=PLyGKBDfnk-iB_rPiS0BbSHefK1HJMrPK_
- Neural networks with Theano and Lasagne https://github.com/ebenolson/pydata2015
- http://deeplearning.net/tutorial/

COURSES AND BOOKS IN COMPUTER SCIENCE

- Functional Programming: https://github.com/MostlyAdequate/mostly-adequate-guide
- Probabilistic Programming: https://bitbucket.org/probprog/mlss2015
- Computational Investing [Coursera] https://www.coursera.org/learn/computational-investing
- Product Management [Coursera] https://www.coursera.org/specializations/product-management
- Tensor Algebra https://habrahabr.ru/post/261421/
- Physics http://theoreticalminimum.com/courses/classical-mechanics/2011/fall

POTENTIALLY USEFUL CODE

- https://github.com/cmusatyalab/openface
- http://www.robots.ox.ac.uk/~vgg/software/vgg_face/
- https://github.com/carpedm20/awesome-torch
- https://github.com/imatge-upc/saliency-2016-cvpr
- http://pjreddie.com/darknet/yolo/
- https://github.com/smichalowski/google_inception_v3_for_caffe
- https://pystruct.github.io/
- http://cnnlocalization.csail.mit.edu/
- https://github.com/emansim/text2image
- https://github.com/philkr/magic_init
- https://github.com/raghakot/keras-resnet
- http://nlp.seas.harvard.edu/code/
- http://tflearn.org/
- http://all-umass.github.io/metric-learn/metric_learn.nca.html
- https://github.com/openai/gym
- https://github.com/gliese581gg/YOLO_tensorflow
- https://github.com/blei-lab/edward
- https://github.com/jcatw/scnn
- http://cs.stanford.edu/people/karpathy/densecap/
- http://liangchiehchen.com/projects/DeepLab.html

ARTICLES/VIDEOS TO READ/WATCH AND PRACTICE

CNN

- http://scs.ryerson.ca/~aharley/neural-networks/
- http://felixlaumon.github.io/2015/01/08/kaggle-right-whale.html
- http://blog.christianperone.com/2016/01/convolutional-hypercolumns-in-python/
- http://josephpcohen.com/w/visualizing-cnn-architectures-side-by-side-with-mxnet/
- http://blog.heuritech.com/2016/01/20/attention-mechanism/
- http://blog.keras.io/how-convolutional-neural-networks-see-the-world.html
- http://torch.ch/blog/2016/02/04/resnets.html
- https://medium.com/@harvitronix/using-reinforcement-learning-in-python-to-teach-a-virtual-car-to-avoid-obstacles-6e782cc7d4c6#.4zvcl34d3
- http://engineering.flipboard.com/2015/05/scaling-convnets/
- http://engineering.curalate.com/2016/01/20/emojinet.html
- http://blog.otoro.net/2016/04/01/generating-large-images-from-latent-vectors/
- http://www.analyticsvidhya.com/blog/2016/04/deep-learning-computer-vision-introduction-convolution-neural-networks/
- https://habrahabr.ru/post/278425/
- https://grzegorzgwardys.wordpress.com/2016/04/22/8/

- http://pradyu1993.github.io/2016/03/08/segnet-post.html
- http://www.robots.ox.ac.uk/~vgg/practicals/cnn/

RNN + NLP

- http://colah.github.io/posts/2015-08-Understanding-LSTMs/
- http://www.neutronest.moe/2015-11-15-LSTM-survey.html
- http://www.wildml.com/2016/01/attention-and-memory-in-deep-learning-and-nlp/
- http://cs.stanford.edu/~quocle/tutorial2.pdf
- http://simaaron.github.io/Estimating-rainfall-from-weather-radar-readings-using-recurrent-neural-networks/
- https://medium.com/jim-fleming/implementing-lstm-a-search-space-odyssey-7d50c3bacf93#.togi3rtez
- https://docs.google.com/presentation/d/19QDuPmxB9RzQWKXp_t3yqxCvMBSMaOQk19KNZqUUgYQ/edit#slide=id.g76126f83b_0_431
- http://www.wildml.com/2015/11/understanding-convolutional-neural-networks-for-nlp/
- http://www.wildml.com/2016/04/deep-learning-for-chatbots-part-1-introduction/
- https://devblogs.nvidia.com/parallelforall/deep-learning-nutshell-sequence-learning/
- https://github.com/EderSantana/seya/blob/master/examples/NTM.ipynb
- https://nofreehunch.wordpress.com/2015/08/30/google-word2vec-tutorial-part-1/
- http://benjaminbolte.com/blog/2016/keras-language-modeling.html
- https://habrahabr.ru/company/dsec/blog/282433/
- https://github.com/jxieeducation/DIY-Data-Science/blob/master/papernotes/2016/02/conv-attention-network-source-code-summarization.md
- https://pseudoprofound.wordpress.com/2016/06/20/recursive-not-recurrent-neural-nets-in-tensorflow/

PROBABILITY

- http://alexanderetz.com/2015/11/01/evidence-vs-conclusions/
- https://habrahabr.ru/post/244625/
- http://twiecki.github.io/blog/2016/06/01/bayesian-deep-learning/
- http://inverseprobability.com/blog /

REINFORCEMENT LEARNING

- https://github.com/maxpumperla/betago
- http://blog.acolyer.org/2016/03/02/graying-the-black-box-understanding-dqns/
- https://blog.init.ai/residual-neural-networks-are-an-exciting-area-of-deep-learning-research-acf14f4912e9#.yyjan74h3

OTHER:

- http://www.marekrei.com/blog/theano-tutorial/
- http://www.itechflare.com/main/complete-guide-setup-tensorflow-windows/

BLOGS TO READ

1. http://www.wildml.com/
2. http://colah.github.io/
3. http://avisingh599.github.io/blog/
4. http://www.offconvex.org/
5. http://www.erogol.com/
6. http://ailev.livejournal.com/
7. https://blog.acolyer.org/
8. http://christopher5106.github.io/
9. http://pradyu1993.github.io/
10. http://yerevann.github.io/
11. http://benanne.github.io/
12. http://karpathy.github.io/
13. http://blog.kaggle.com/
14. http://blog.christianperone.com/
15. http://twiecki.github.io
16. https://openai.com/blog/
17. http://rinuboney.github.io/
18. http://blog.wtf.sg/
19. https://blogs.nvidia.com/blog/category/deep-learning/
20. https://www.nervanasys.com/blog/
21. http://timdettmers.com/
22. http://blog.shakirm.com/
23. https://blogs.princeton.edu/imabandit/
24. http://rocknrollnerd.github.io/
25. http://www.thetalkingmachines.com/
26. http://www.fastml.com/
27. http://sebastianruder.com/#open
28. http://outlace.com/
29. http://mlwave.com/
30. https://blog.acolyer.org/
31. https://deepmind.com/blog/
32. https://dailyvisionblog.wordpress.com/

SCIENTIFIC PAPERS TO READ

- Derivatives for convolutions: https://jianfengwang.files.wordpress.com/2015/07/forwardandbackwardpropagationofconvolutionallayer.pdf
- SqueezeNet: http://arxiv.org/pdf/1602.07360v2.pdf
- http://www.wisdom.weizmann.ac.il/~dannyh/Mircs/mircs.html
- Deep Spiking Networks: http://arxiv.org/pdf/1602.08323v1.pdf
- Riemannian Neural Networks: http://arxiv.org/pdf/1602.08007v1.pdf
- Deep Residual Learning: http://arxiv.org/pdf/1512.03385v1.pdf
- GENERATIVE ADVERSARIAL NETWORKS: http://arxiv.org/pdf/1511.06434v1.pdf
- http://gitxiv.com/posts/j9FtQgmHAQD8qceub/a-neural-conversational-model
- Generating Images from Captions with Attention: http://arxiv.org/abs/1511.02793
- Parsing and Sentence Understanding: http://www.foldl.me/uploads/papers/acl2016-spinn.pdf
- Semantic Object Parsing with Graph LSTM: http://arxiv.org/pdf/1603.07063v1.pdf
- Explaining the Predictions of Any Classifier: http://arxiv.org/pdf/1602.04938v1.pdf
- Regularizing CNN on the Loss Layer: http://research.microsoft.com/en-us/um/people/jingdw/pubs/cvpr16-disturblabel.pdf
- Identity Mappings in Deep Residual Networks: http://arxiv.org/pdf/1603.05027v2.pdf
- http://gitxiv.com/posts/jJxKbNKBPDE8cbcgm/learning-deep-features-for-discriminative-localization
- https://github.com/karpathy/paper-notes/blob/master/matching_networks.md

EDUCATIONAL

- http://rinuboney.github.io/2015/10/18/theoretical-motivations-deep-learning.html
- https://adeshpande3.github.io/adeshpande3.github.io/A-Beginner's-Guide-To-Understanding-Convolutional-Neural-Networks/
- https://adeshpande3.github.io/adeshpande3.github.io/A-Beginner's-Guide-To-Understanding-Convolutional-Neural-Networks-Part-2/
- https://adeshpande3.github.io/adeshpande3.github.io/The-9-Deep-Learning-Papers-You-Need-To-Know-About.html
- http://jefkine.com/general/2016/09/05/backpropagation-in-convolutional-neural-networks/