Contents

- LICENSE
- Deep Learning Tutorials
- Getting Started
  - Download
  - Datasets
  - Notation
  - A Primer on Supervised Optimization for Deep Learning
  - Theano/Python Tips
- Classifying MNIST digits using Logistic Regression
  - The Model
  - Defining a Loss Function
  - Creating a LogisticRegression class
  - Learning the Model
  - Testing the model
  - Putting it All Together
  - Prediction Using a Trained Model
- Multilayer Perceptron
  - The Model
  - Going from logistic regression to MLP
  - Putting it All Together
  - Tips and Tricks for training MLPs
- Convolutional Neural Networks (LeNet)
  - Motivation
  - Sparse Connectivity
  - Shared Weights
  - Details and Notation
  - The Convolution Operator
  - MaxPooling
  - The Full Model: LeNet
  - Putting it All Together
  - Running the Code

    - Tips and Tricks
- Denoising Autoencoders (dA)
    - Autoencoders
    - Denoising Autoencoders
    - Putting it All Together
    - Running the Code
- Stacked Denoising Autoencoders (SdA)
    - Stacked Autoencoders
    - Putting it all together
    - Running the Code
    - Tips and Tricks
- Restricted Boltzmann Machines (RBM)
    - Energy-Based Models (EBM)
    - Restricted Boltzmann Machines (RBM)
    - Sampling in an RBM
    - Implementation
    - Results
- Deep Belief Networks
    - Deep Belief Networks
    - Justifying Greedy-Layer Wise Pre-Training
    - Implementation
    - Putting it all together
    - Running the Code
    - Tips and Tricks
- Hybrid Monte-Carlo Sampling
    - Theory
    - Implementing HMC Using Theano
    - Testing our Sampler
    - References
- Recurrent Neural Networks with Word Embeddings
    - Summary
    - Code - Citations - Contact
    - Task
    - Dataset

- Recurrent Neural Network Model
- Evaluation
- Training
- Running the Code

- LSTM Networks for Sentiment Analysis
  - Summary
  - Data
  - Model
  - Code - Citations - Contact
  - References
- Modeling and generating sequences of polyphonic music with the RNN-RBM
  - The RNN-RBM
  - Implementation
  - Results
  - How to improve this code
- Miscellaneous
  - Plotting Samples and Filters
- References