Deep Neural Networks for speech recognition

Free speech recognition dataset at:

http://www.openslr.org/12/

Deep Learning (DL) methods: Caffe, Torch, Theano, TensorFlow

TensorFlow is flexible and works with NVidia CUDA: https://www.tensorflow.org/tutorials/

Supervised Machine Learning needs two steps: Training, Testing (or Inference)

For Training NVidia developed Digits: Browser based DL Training System: https://developer.nvidia.com/digits

For Testing (Inference): NVidia has TensorFlow run-time precompiled for CUDA

Regarding Deep Neural Networks (DNN) for speech processing: Recurrent Neural Network may work better because they look at adjacent information in the recorded voice to recognize words, an example of a recurrent DNN is Long Short Term Memory (LSTM) network. In the beginning it may be better to use a feed-forward DNN, later you can look at other DNNs.

Video about what is a DNN and how to use Tensorflow

https://www.youtube.com/watch?v=vq2nnJ4g6N0&t=7844s

Videos on how to use Tensorflow for speech recognition:
https://www.youtube.com/watch?v=u9FPqkuoEJ8

https://www.youtube.com/watch?v=g-sndkf7mCs