

# RNNLIB: Introduction

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RNNLIB is a recurrent neural network library for sequence learning problems, which is written by [Alex Graves](#).

In [this paper](#), Graves proposed the CTC(Connectionist Temporal Classification), which allows the system to transcribe unsegmented sequence data. The most exciting thing is that by training a deep bidirectional LSTM network with CTC, it is possible to perform automatic speech recognition in an [end-to-end fashion](#), i.e. without any human expertise.

RNNLIB covers all the theories in Graves's paper, including:

- Bidirectional Long Short-Term Memory
- Connectionist Temporal Classification
- Multidimensional Recurrent Neural Networks

I will try to explain the codes in RNNLIB in following posts.

1. [RNNLIB: Softmax Layer](#)
2. [RNNLIB: Connectionist Temporal Classification and Transcription Layer](#)