

Differentiable Neural Computer Learning Note

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1 Code Structure

1.1 About Computation Graph

The basic graph is defined in “DNC.py”, some peripheral parts of graph is defined in “run_model”function and “train.py”. The main parts of computation graph of DNC is organized as following:

1.2 Activities in Each Loop

In each loop of training in iteration, the agent does the following things:

Some input is presented

Input is given to LSTM

Something is written to memory

Something is output from memory

The output is decoded by LSTM and printed

Table 1: Organization of DNC

name	functionality	script	function	class
controller	an LSTM network which reads data	DNC.py	x	DNC

2 Topics to Study

- 2.1 What type of task does this agent try to finish
- 2.2 What is the function of memory in this task
- 2.3 What together tasks can we train the agent to do
- 2.4 What parts and functions can we add to this agent

3 Question

- 3.1 The memory and controller are defined, but are not connected
- 3.2 The build function is not used