

From the Real-Time Operating System to the Neural Turing Machine

A Neural Turing Machine (NTM) is a recurrent neural network model. NTMs combine the fuzzy pattern matching capabilities of neural networks with the algorithmic power of programmable computers. A NTM has a neural network controller coupled to external memory resources, which it interacts with through attentional mechanisms. The memory interactions are differentiable end-to-end, making it possible to optimize them using gradient descent.

OVERVIEW

1. INTRODUCTION

2. PROJECTS

2.1. Real Time Operating System

2.1.1. GNU Mach Kernel RTOS

2.1.2. GNU Hurd Operating System RTOS

2.1.3. GNU Debian Distribution RTOS

2.2. Neural Turing Machine

2.2.1. PU-NTM

2.2.2. SoC-NTM

2.2.3. MPSoC-NTM

3. WORKFLOW

3.1. Front-End Tool

3.2. Back-End Tool

4. CONCLUSION