A *HillClimbing* METHOD TO CONSTRUCT NEURAL NETWORK AUTOMATICALLY

A GITHUB PAPER

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ABSTRACT

A method based on Hill Climbing Algorithm is use to build Neural Network model automatically. In our experiment, several simple robust model was construct to recognize handwritten digit on MNIST test base.

***K*eywords** Neural Network · Deep Learning · MNIST

1 Introduction

The deep learning technology has imporved nerural network for several years. People try to find better models based on their intuitive sense. In this paper, We propose a method to evolve neural model automatically from a single layer model.

2 Background

Background .

See Section 2.

3 Method

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3.1 Measure: The height of Hill Climbing Algorithm

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$$\xi_{ij}(t) = P(x_t = i, x_{t+1} = j|y, v, w; \theta) = \frac{\alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})}{\sum_{i=1}^{N} \sum_{j=1}^{N} \alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})} \tag{1}$$

*Use footnote for providing further information about author (webpage, alternative address)—*not* for acknowledging funding agencies.

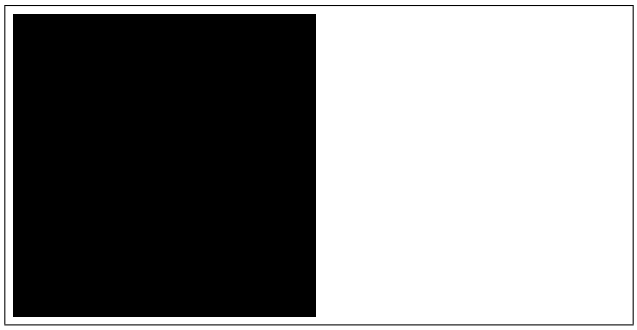

Figure 1: Sample figure caption.

3.1.1 Neighbor: How to select a neighbor model?

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4 Experiments

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[1, 2] and see [3].

The documentation for `natbib` may be found at

`http://mirrors.ctan.org/macros/latex/contrib/natbib/natnotes.pdf`

Of note is the command `\citet`, which produces citations appropriate for use in inline text. For example,

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\citet{hasselmo} investigated\dots
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produces

> Hasselmo, et al. (1995) investigated…

`https://www.ctan.org/pkg/booktabs`

4.1 Figures

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4.2 Tables

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[2] Sample of the first footnote.

Table 1: Sample table title

	Part	
Name	Description	Size (μm)
Dendrite	Input terminal	$\sim$100
Axon	Output terminal	$\sim$10
Soma	Cell body	up to 10^6

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4.3 Lists

- Lorem ipsum dolor sit amet
- consectetur adipiscing elit.
- Aliquam dignissim blandit est, in dictum tortor gravida eget. In ac rutrum magna.

References

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