A Possibility for Handwriting Trajectory Reconstruction with Deep Learning

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UTFPR

Introduction

- Handwriting Recognition
  - Offline / Online

Introduction

- Handwriting Recognition
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- Offline data: limited information

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- Handwriting Recognition
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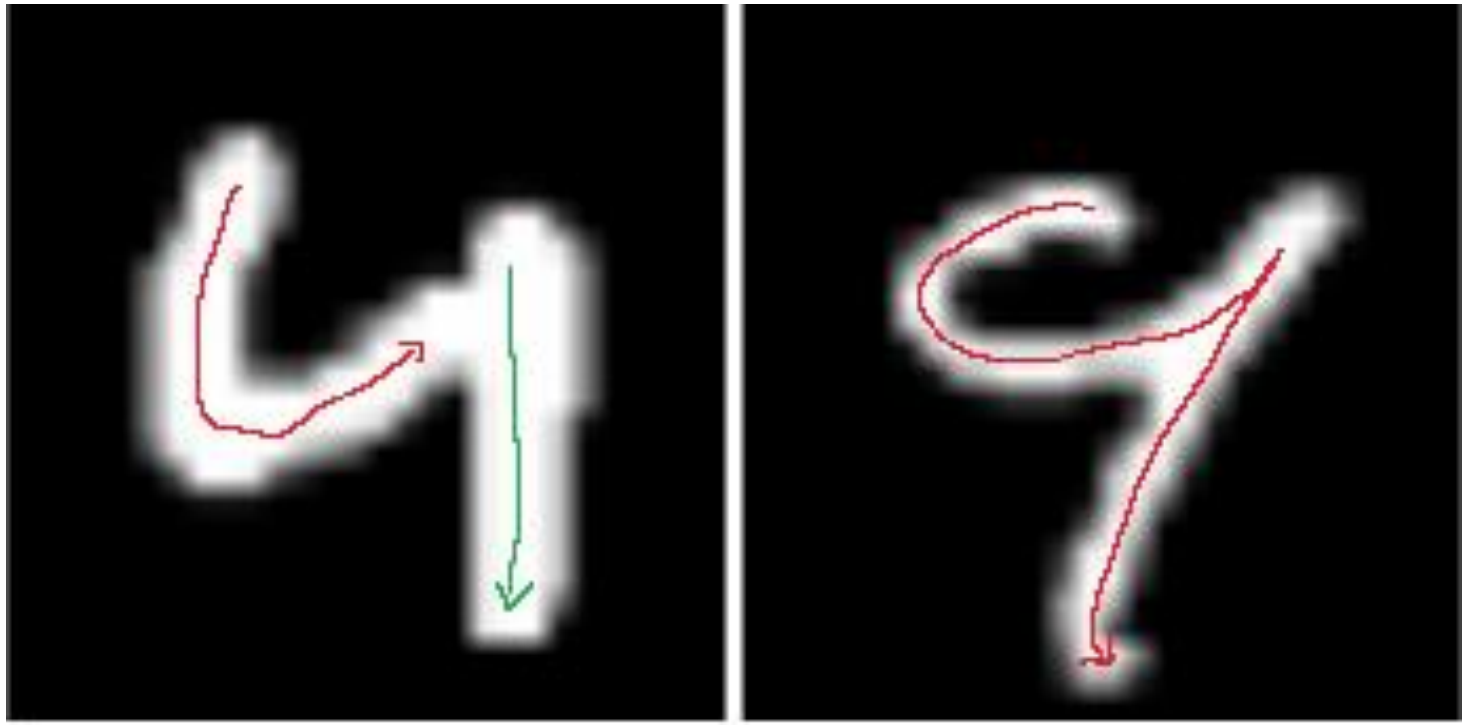
- Offline data: limited information
- *Handwritting Trajectory Recovery – HTR*

Introduction

- Why HTR?



Source: Adapted from LeCun et al. (1998)

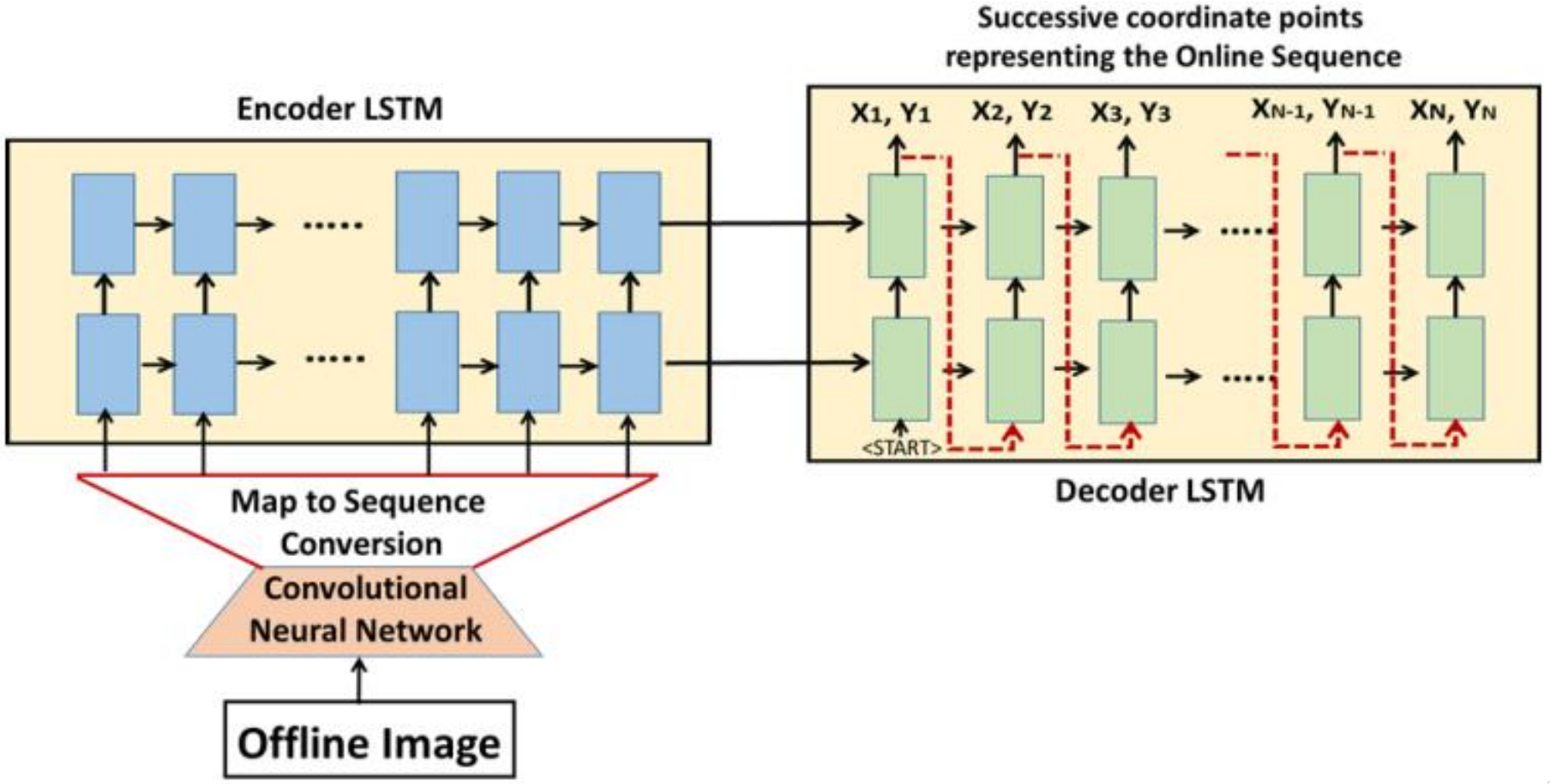
Introduction

- HTR with Deep Learning – Bhunia et al. 2018

Introduction

- HTR with Deep Learning – Bhunia et al. 2018
- Reconstruction of Handwriting Characters
  - Recover handwriting characters trajectory
  - Retrieve missing part of characters

Methodology



Source: Bhunia et al. 2018

Methodology

- Network Parameters
  - CNN – 8 layers
  - 2 Bidirectional LSTM (encoder-decoder) with 256 each

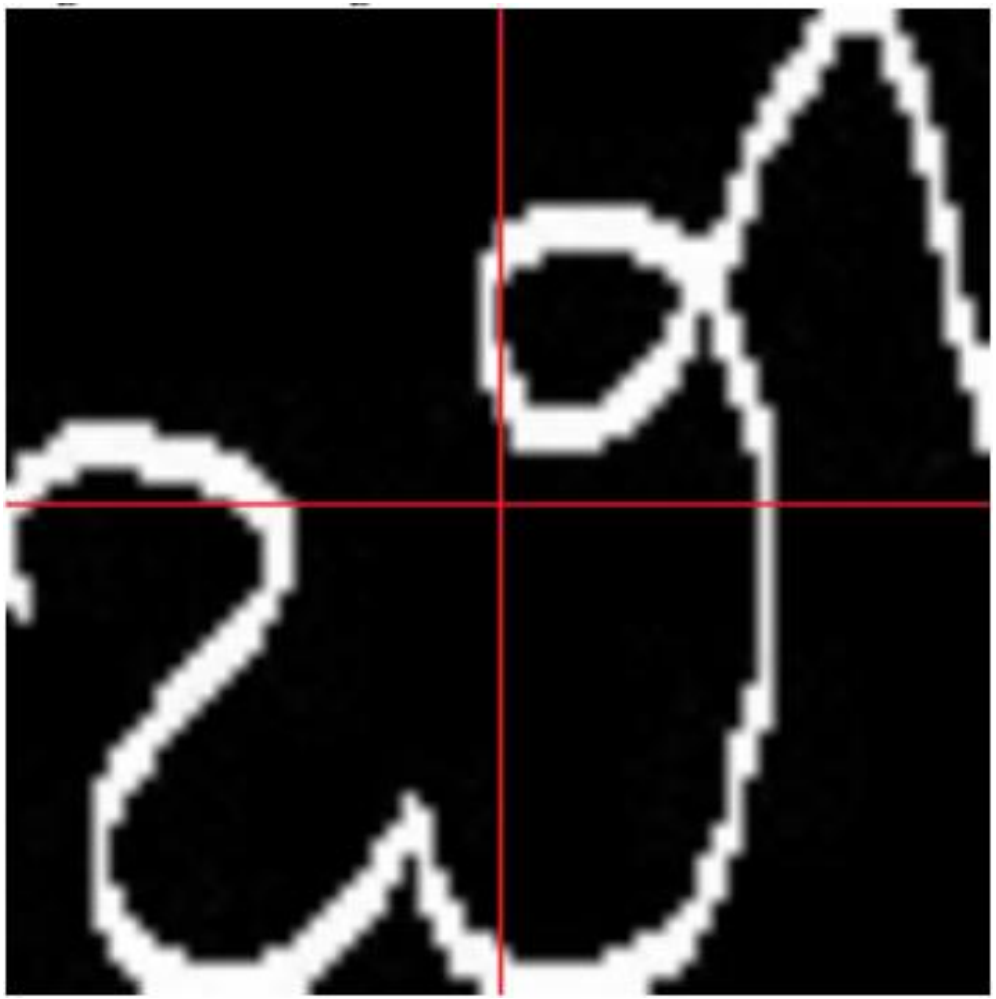
Experiments and results

Original image

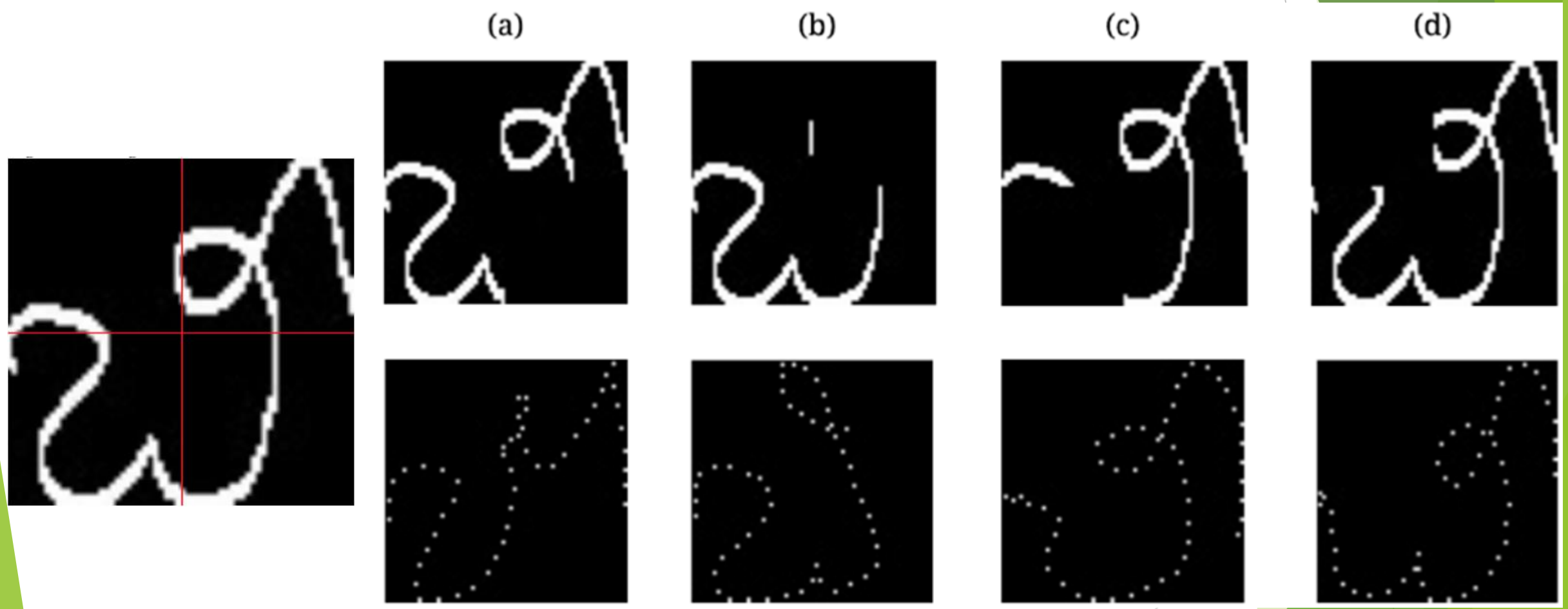
Prediction

Predicted image

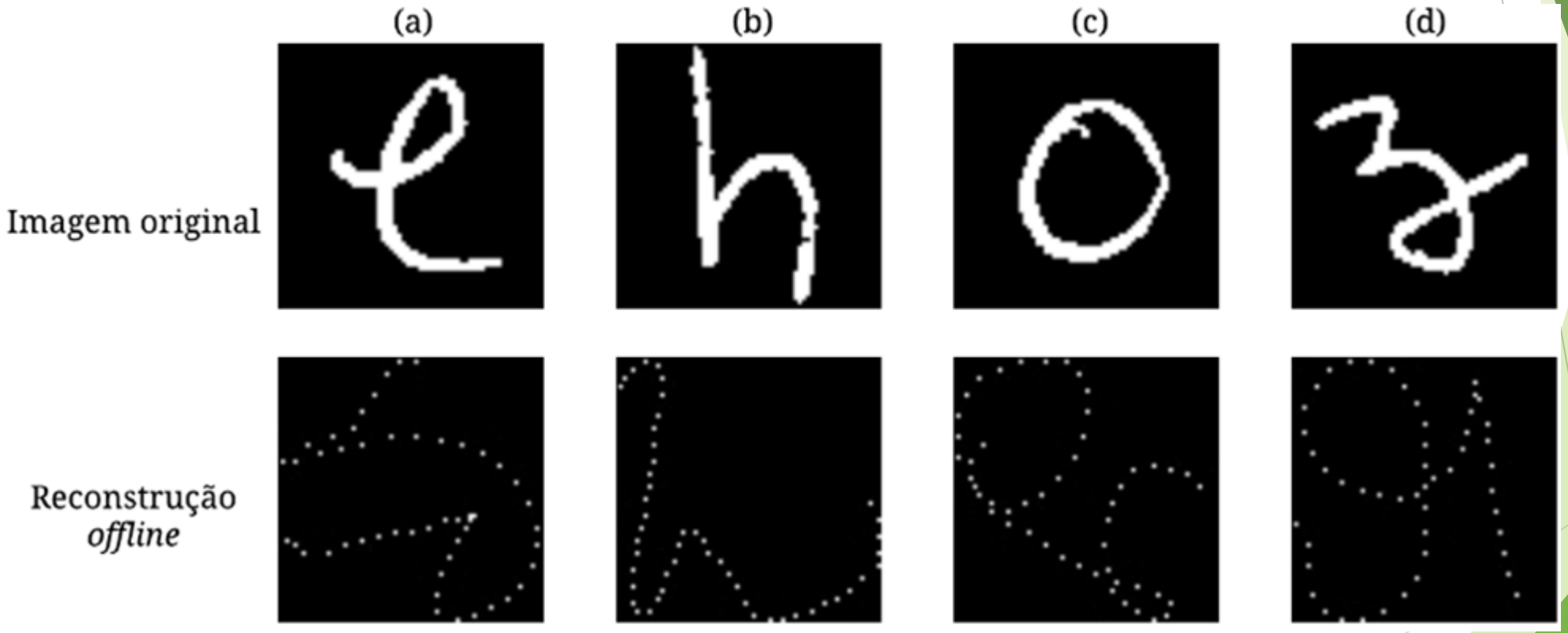
Experiments and results



Experiments and results



Experiments and results



Future Works

- Handwriting Latin Character Reconstruction

Future Works

- Handwriting Latin Character Reconstruction
- Transfer Learning

Future Works

- Handwriting Latin Character Reconstruction
- Transfer Learning
- Zoning method by Freitas et al 2007

Dúvidas?
Obrigado pela atenção!

Referências

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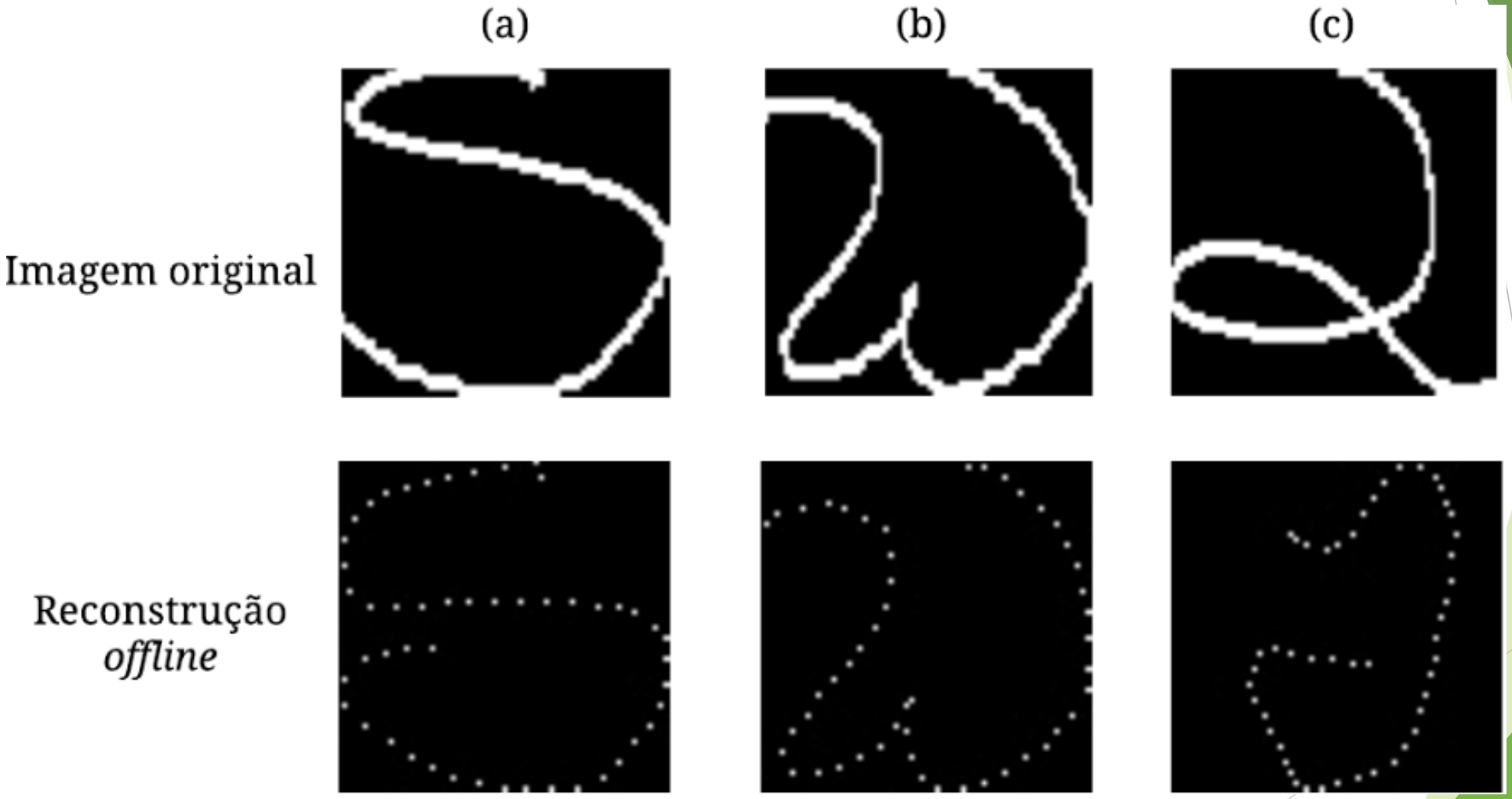

Fonte: Autoria própria