Font Representation Learning via Paired-glyph Matching

Junho Cho1,2, Kyewang Lee1, Jin Young Choi2
Department of ECE, ASRI, Seoul National University1
Harvard University2

Abstract

We aim to learn font representation to explore vast font styles. A glyph (g) is an image form of a character that has a specific style in a font. A font (f) is a matching style set of glyphs.

Introduction

A glyph is an image form of a character that has a specific style in a font. A font is a matching style set of glyphs.

Font 1: \[ f_1 \]

Font 2: \[ f_2 \]

Same character

Different character

Same character

Different character

Font Classification [32]

Font Style Transfer [40, 42]

Autoencoder [30, 37]

Attribute Prediction [4, 24]

Previous Method

\[ R \]

\[ B \]

Classification [32]

\[ R \]

\[ B \]

Attributes

Angular

Attractive

Boring

Delicate

Modern

Strong

Thin

Table 1: Methods used in this work.

<table>
<thead>
<tr>
<th>Methods</th>
<th>Capital64 valset MACC((C_{2,2}))</th>
<th>Capital64 testset MACC((C_{2,2}))</th>
<th>O’Donovan L1-error</th>
</tr>
</thead>
<tbody>
<tr>
<td>( f ) of Paired-g Matching [ f ]</td>
<td>61.38</td>
<td>62.66</td>
<td>0.09589</td>
</tr>
<tr>
<td>( f ) of Classification [32] [ f ]</td>
<td>55.27</td>
<td>56.31</td>
<td>0.1275</td>
</tr>
<tr>
<td>( f ) of Style Transfer [40, 42] [ f ]</td>
<td>32.22</td>
<td>32.53</td>
<td>0.1217</td>
</tr>
<tr>
<td>( f ) of Autoencoder [30, 37] [ f ]</td>
<td>13.60</td>
<td>14.16</td>
<td>0.1312</td>
</tr>
<tr>
<td>( f ) of Srivatsan et al. [28] [ f ]</td>
<td>11.72</td>
<td>11.56</td>
<td>0.1097</td>
</tr>
</tbody>
</table>

Performance evaluation (MACC and Font attribute prediction) on the Capital64 dataset. Font attribute prediction is evaluated on O’Donovan dataset with L1 error.