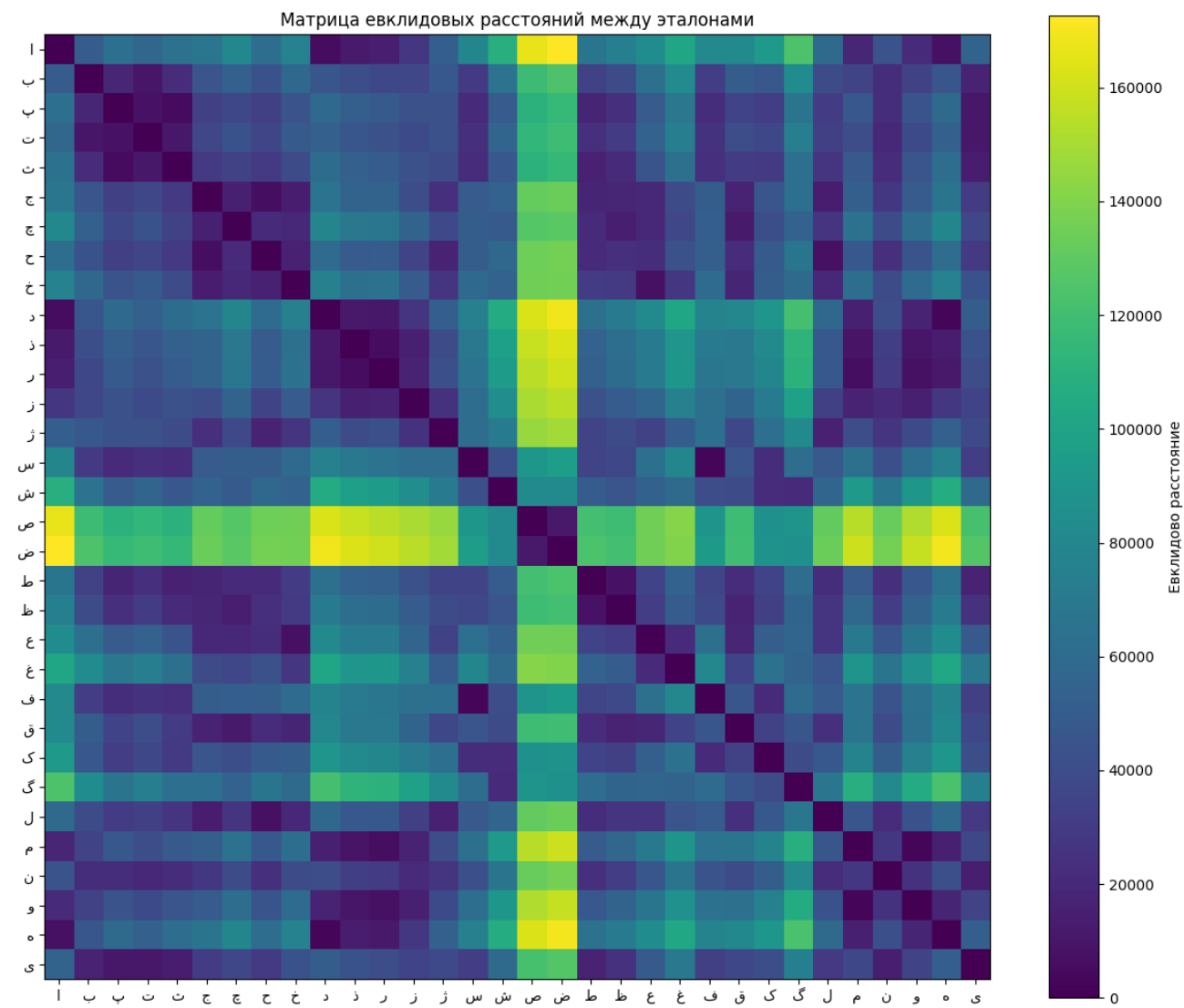


Лабораторная работа №7. Классификация на основе признаков, анализ профилей

Вариант с персидским алфавитом

1. Расчёт меры близости изображений символов на основе признаков.



2. Гипотезы

[recognized_hypotheses.txt](#)

```
"1: [('', 'ن'), (0.8704, 'ض'), (0.8831, 'ک'), (0.8924, 'پ'), (0.9877, 'د',  
0.645, 'ق'), (0.7815, 'غ'), (0.8135, 'و'), (0.8161, 'ر'), (0.8261)]"  
"2: [('', 'ب'), (0.8015, 'ط'), (0.8263, 'ح'), (0.8669, 'ش'), (0.893, 'ث',  
'ف'), (0.6762, 'و'), (0.7287, 'غ'), (0.7591, 'ه'), (0.7604, 'خ'), (0.7743,  
0.6006)]"  
"3: [('', 'ک'), (0.8699, 'م'), (0.8749, 'ص'), (0.8763, 'ف'), (0.9761, 'س',  
0.6471, 'پ'), (0.7032, 'ن'), (0.7556, 'و'), (0.7658, 'غ'), (0.838)]"  
"4: [('', 'ض'), (0.7449, 'خ'), (0.8479, 'ن'), (0.8669, 'ذ'), (0.9662, 'ت',  
0.6367, 'د'), (0.6773, 'ث'), (0.695, 'پ'), (0.6982, 'ه'), (0.741)]"
```

```

"5: [ ('', 'ص'), (0.8693, 'و'), (0.8768, 'ق'), (0.8779, 'ط'), (0.9821, 'ث'), (0.8668), (0.819, 'ز'), (0.7931, 'گ'), (0.7802, 'ذ'), (0.6792, 'س')] "
"6: [ ('', ' ', 0.9682), ('', 'ی'), (0.7824, 'ج'), (0.7967, 'ز'), (0.8167, 'چ'), (0.6273, 'ل'), (0.6448, 'ظ'), (0.6906, 'ر'), (0.6991, 'م'), (0.7457)] "
"7: [ ('', 'ش'), (0.8085, 'ج'), (0.8185, 'گ'), (0.8281, 'ی'), (0.9632, 'د'), (0.6822, 'ه'), (0.7724, 'ع'), (0.7783, 'ر'), (0.7801, 'ف'), (0.7921)] "
"8: [ ('', 'ع'), (0.7719, 'ج'), (0.7835, 'ژ'), (0.8747, 'چ'), (0.972, 'ا'), (0.6118, 'س'), (0.6209, 'ی'), (0.6764, 'و'), (0.6871, 'ک'), (0.7137)] "
"9: [ ('', 'ک'), (0.8126, 'ح'), (0.8276, 'غ'), (0.828, 'ذ'), (0.9269, 'گ'), (0.8068, 'ض'), (0.763, 'ا'), (0.693, 'ن'), (0.6583, 'ه'), (0.6442, 'ر'), (0.6129)] "
"10: [ ('', 'ن'), (0.8559, 'ص'), (0.8761, 'و'), (0.8817, 'س'), (0.9869, 'م'), (0.7105, 'ش'), (0.717, 'ت'), (0.7732, 'ظ'), (0.7934, 'ژ'), (0.8075)] "
"11: [ ('', ' ', 0.986), ('', 'ص'), (0.7401, 'ر'), (0.7478, 'ل'), (0.7948, 'خ'), (0.6215, 'ن'), (0.6459, 'پ'), (0.6595, 'س'), (0.6849, 'م'), (0.6908)] "
"12: [ ('', 'پ'), (0.7899, 'ص'), (0.8107, 'ث'), (0.8381, 'غ'), (0.9771, 'ت'), (0.6379, 'ز'), (0.6407, 'ذ'), (0.6571, 'ظ'), (0.7475, 'خ'), (0.7571)] "
"13: [ ('', 'ت'), (0.7886, 'ص'), (0.7891, 'ذ'), (0.8848, 'م'), (0.9652, 'ا'), (0.6117, 'ر'), (0.6184, 'ظ'), (0.6513, 'ث'), (0.7697, 'غ'), (0.7883)] "
"14: [ ('', ' ', 0.9677), ('', 'ن'), (0.8332, 'ه'), (0.8712, 'ب'), (0.8728, 'ی'), (0.7278, 'ط'), (0.7385, 'ذ'), (0.7815, 'پ'), (0.7928, 'و'), (0.8204)] "
"15: [ ('', 'ط'), (0.7889, 'چ'), (0.8299, 'ی'), (0.8591, 'ج'), (0.9768, 'ب'), (0.6194, 'ع'), (0.6788, 'ذ'), (0.7073, 'ه'), (0.708, 'ض'), (0.7497)] "
"16: [ ('', 'خ'), (0.873, 'ط'), (0.8796, 'ر'), (0.8882, 'ت'), (0.9536, 'ی'), (0.6181, 'ن'), (0.6463, 'غ'), (0.6637, 'گ'), (0.7302, 'ث'), (0.7505)] "
"17: [ ('\u200c', 0.9655), ('', (0.8574, 'ع'), (0.8731, 'ب'), (0.8852, 'و'), ('', 'ک'), (0.6107, 'ظ'), (0.6386, 'ر'), (0.7933, 'ط'), (0.8037, 'ج'), (0.6061)] "
"18: [ ('', 'ر'), (0.8229, 'چ'), (0.8269, 'ی'), (0.8925, 'ح'), (0.9622, 'ن'), (0.6156, 'ث'), (0.6334, 'ز'), (0.7332, 'ض'), (0.7693, 'ف'), (0.8092)] "
"19: [ ('', 'ن'), (0.7929, 'ک'), (0.8074, 'ع'), (0.8616, 'خ'), (0.9429, 'ه'), (0.6876, 'م'), (0.6901, 'ژ'), (0.7093, 'ش'), (0.7192, 'ط'), (0.7834)] "
"20: [ ('', 'ذ'), (0.8552, 'ث'), (0.8584, 'ص'), (0.8831, 'ر'), (0.9632, 'ا'), (0.6532, 'و'), (0.6773, 'د'), (0.728, 'غ'), (0.7664, 'ج'), (0.8174)] "
"21: [ ('', 'ذ'), (0.7149, 'غ'), (0.7648, 'ه'), (0.8518, 'ص'), (0.9806, 'ی'), (0.6148, 'ل'), (0.6683, 'ض'), (0.6777, 'ا'), (0.682, 'ش'), (0.6954)] "
"22: [ ('', 'ف'), (0.7802, 'ج'), (0.8034, 'ص'), (0.8882, 'گ'), (0.9446, 'ت'), (0.6766, 'ح'), (0.698, 'ز'), (0.715, 'خ'), (0.7529, 'ا'), (0.7701)] "

```

3. Результаты

Ожидаемая строка: دشتت داگم تا بی نهایت

Распознанная строка: دوستت دارم تا بی نهایت

4. Количество ошибок и доля (%) верно распознанных символов.

Количество ошибок: 2

Доля верно распознанных символов: 90.91%

5. Генерация изображения исходной строки с размером шрифта, отличающемся от исходного на несколько пунктов. Сравнение.

Распознанная строка (измененный шрифт): دو سماع لارم تا بی نهایت

Ожидаемая строка: دوستت دارم تا بی نهایت

Количество ошибок: 3

Доля верно распознанных символов: 86.36%