

Extraction

Generalization

Interpretation

Raw Character Sequence

[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]
[0, 0, ..., 1, ..., 0]

One-hot
Vectors of
Length 256

Temporal
Encoder

Dense Encoded Sequence

[251, ..., 955, ..., 185]
[105, ..., 853, ..., 292]
[863, ..., 722, ..., 223]
[525, ..., 389, ..., 981]
[910, ..., 350, ..., 428]
[185, ..., 285, ..., 693]
[204, ..., 102, ..., 326]
[828, ..., 985, ..., 292]
[584, ..., 152, ..., 425]

Dense
Vectors of
Length < 256

LSTM
Network

Intermediate Features

[0.93, ..., 0.06, ..., 0.53]
[0.32, ..., 0.14, ..., 0.22]
[0.11, ..., 0.83, ..., 0.42]
[0.31, ..., 0.41, ..., 0.71]
[0.01, ..., 0.95, ..., 0.14]
[0.26, ..., 0.45, ..., 0.52]
[0.67, ..., 0.85, ..., 0.32]
[0.92, ..., 0.35, ..., 0.94]
[0.46, ..., 0.63, ..., 0.12]

Probabilistic
Classifications of
Length << 256

LSTM
Network

Higher Level Features

[0.11, ..., 0.83, ..., 0.42]
[0.31, ..., 0.41, ..., 0.71]
[0.93, ..., 0.06, ..., 0.53]
[0.32, ..., 0.14, ..., 0.22]
[0.92, ..., 0.35, ..., 0.94]
[0.46, ..., 0.63, ..., 0.12]
[0.01, ..., 0.95, ..., 0.14]
[0.26, ..., 0.45, ..., 0.52]
[0.67, ..., 0.85, ..., 0.32]

Probabilistic
Classifications of
Length << 256