



Sources

Includes Input features at time t and outputs from $t-1$

Comparing lstm.py and the equations in Supervised Sequence Labeling using Recurrent Neural Networks:

- $W_{gi} = w_{il}$ and w_{hl} augmented
- $W_{go} = w_{i\omega}$ and $w_{h\omega}$ augmented
- $W_{gf} = w_{i\phi}$ and $w_{h\phi}$ augmented
- $W_{ci} = w_{ic}$ and w_{hc} augmented
- $W_{ip} = w_{cl}$
- $W_{op} = w_{c\omega}$
- $W_{fp} = w_{c\phi}$
- $\text{Source}[t] = x^t$ and b_h^{t-1}
- $\text{State}[t] = S_c^t$
- $\text{Output}[t] = b_c^t$
- $\text{Cix}[t] = a_c^t$
- $\text{Ci}[t] = g(a_c^t)$
- $\text{Gix}[t] = a_l^t$
- $\text{Gi}[t] = b_l^t$
- $\text{Gox}[t] = a_\omega^t$
- $\text{Go}[t] = b_\omega^t$
- $\text{Gfx}[t] = a_\phi^t$
- $\text{Gf}[t] = b_\phi^t$
- $\text{outerr}[t] = \mathbb{E}_c^t$
- $\text{stateerr}[t] = \mathbb{E}_s^t$

- $gierr[t] = \delta_l^t$
- $gferr[t] = \delta_\phi^t$
- $goerr[t] = \delta_\omega^t$
- $cierr[t] = \delta_c^t$