Important Equations for LSTM Anomaly Detection Model

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$$\text{precision} = \frac{TP}{FP + TP} \tag{1}$$

$$\text{recall} = \frac{TP}{FP + FN} \tag{2}$$

$$F_1 = F_\beta = (1 + \beta^2) \cdot \frac{\text{precision} \cdot \text{recall}}{(\beta^2 \cdot \text{precision}) \cdot \text{recall}} \tag{3}$$

Reconstruction error

$$\mathbf{e}^{(i)} = |\mathbf{x}^{(i)} - \mathbf{x}'^{(i)}| \tag{4}$$

Anomaly Scores from Multivariate Gaussian Distribution Model

$$a^{(i)} = (\mathbf{e}^{(i)} - \boldsymbol{\mu})^T \boldsymbol{\Sigma}^{-1} (\mathbf{e}^{(i)} - \boldsymbol{\mu}) \tag{5}$$