10.07.2020

- Select 1 GO target with most balanced samples.
- Perform hyperparameter search on binary classification task on the 1 GO target
- Perform -"- on the 1 GO target + auxilliary targets, Use GO terms with appropriate number of positive & negative samples.
- Re-use best hyperparameter setting for experiments on another 4-9 top GO terms.
  = most balanced samples
- Analyze & compare performance with & without auxilliary tasks on the 5-10 GO terms.

Loss design:

$$L_{total} = l_{main} + w_a \cdot \sum_{i}^{N} \frac{1}{N} \cdot l_{aux_i}$$

with $0 < w_a \leq 1$ (maybe 0.5 and 1.0)

Hyperparameters:

- learningrate & optimizer (ADAM & SGD)
- batch size, number of LSTM blocks, L1 and L2 decay,
- input dropout, LSTM dropout
- CNN + LSTM (kernelsize 3 or 5, 64 kernels)
- additional fully connected Layer before output Layer