Model Performance

Combining objective functions

Multiplicative approach

Metric A * Metric B …

Metric A * weighting A + Metric B * weighting B…

Requires metrics to be normalized (same range)

- 0-1
- divide by maximum value

Metrics must all work in the same direction

increase = better OR decrease = better

Performance Metrics

- If you are combining = need to increase with "better" models

- Transform metrics like RMSE that work in reverse

$$SSE = \frac{1}{n}\sum_{i=1}^{n}(m_i - o_i)^2$$

$L = (SSE)^{-n}$ where n is a shaping parameter
(Freer et al., (1997)

$L = \exp(-nSSE)$

$L = (\max(RMSE)-RMSE) / (\max(RMSE) - \min(RMSE)$