

Concentration Inequalities for Conditional Value at Risk

Errata

Philip S. Thomas
University of Massachusetts
pthomas@cs.umass.edu

October 15, 2020

Error

The equation labeled (2) on page 3 of our paper (Thomas and Learned-Miller, 2019) says:

$$C(Y) = \frac{1}{\alpha} \int_{1-\alpha}^1 \text{VaR}_\gamma(Y) d\gamma.$$

The $\text{VaR}_\gamma(Y)$ term should be $\text{VaR}_{1-\gamma}(Y)$. That is, the equation labeled (2) should be:

$$C(Y) = \frac{1}{\alpha} \int_{1-\alpha}^1 \text{VaR}_{1-\gamma}(Y) d\gamma.$$

An equivalent correct equation would be:

$$C(Y) = \frac{1}{\alpha} \int_0^\alpha \text{VaR}_\gamma(Y) d\gamma.$$

This error should be clear from Figure 3 and noticing that VaR_α was defined in terms of the upper-tail—the incorrect equation assumed that VaR_α was defined in terms of the lower-tail. The subsequent expressions all remain correct to the best of our knowledge.

Acknowledgements

We thank James Kostas for finding and alerting us of this error.

References

P. Thomas and E. Learned-Miller. Concentration inequalities for conditional value at risk. In *International Conference on Machine Learning*, pages 6225–6233, 2019.