Data-Driven Stochastic Robust Optimization: General Computational Framework and Algorithm Leveraging Machine Learning for Optimization under Uncertainty in the Big Data Era

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PII: S0098-1354(17)30445-3
DOI: 10.1016/j.compchemeng.2017.12.015
Reference: CACE 5982

To appear in: *Computers and Chemical Engineering*

Received date: 3 October 2017
Revised date: 20 December 2017
Accepted date: 27 December 2017

Please cite this article as: Chao Ning , Fengqi You , Data-Driven Stochastic Robust Optimization: General Computational Framework and Algorithm Leveraging Machine Learning for Optimization under Uncertainty in the Big Data Era, *Computers and Chemical Engineering* (2017), doi: 10.1016/j.compchemeng.2017.12.015

Highlights

- Machine learning based uncertainty model is developed
- A data-driven optimization under uncertainty framework is proposed
- Labeled multi-class uncertainty data is leveraged for decision making
- The resulting problem is solved with a decomposition-based algorithm
- Applications to process network design and planning